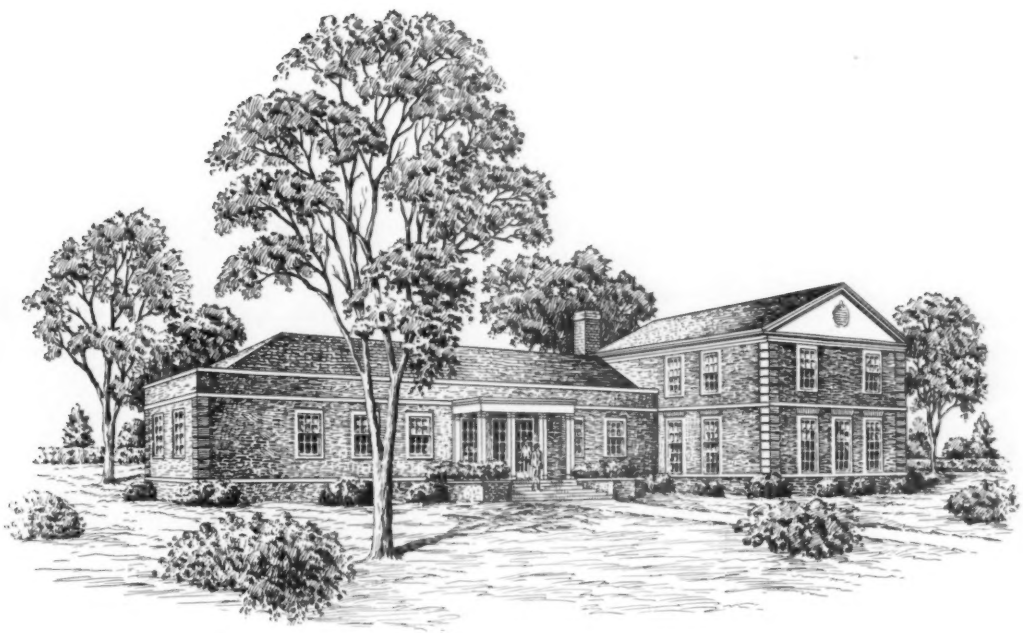
OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

VIRGINIA MEDICAL MONTHLY



Annual Meeting
The Medical Society of Virginia
Roanoke, October 4-7, 1959

MAY, 1959

in epilepsy

PREREQUISITE FOR EMOTIONAL ADJUSTMENT: THERAPY

"The most effective form of psychotherapy is to demonstrate to the patient that his seizures can be adequately controlled by the use of anticonvulsant medication."[1]

REQUISITE FOR THERAPY:
THE PARKE-DAVIS FAMILY OF ANTICONVULSANTS
effective anticonvulsants for most clinical needs

bibliography: (1) Carter, S. M.: *M. Clin. North America:* 315 (March) 1953. (2) Chao, D. H.: *Ibid.*, p. 465. (3) Goodman, L. S., & Gilman, A.: The Pharmacological Basis of Therapeutics, ed. 2, New York, MacMillan Company, 1955, p. 187. (4) Davidson, D. T., Jr., in Conn, H. F.: Current Therapy 1958, Philadelphia, W. B. Saunders Company, 1958, p. 568. (5) Zimmerman, F. T.: *New York J. Med.* 55:2338, 1955. (6) French, E. G.; Rey-Bellet, J., & Lennox, W. G.: *New England J. Med.* **258**:892 (May 1) 1958.

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"...DILANTIN Sodium is the most useful nonsedative anticonvulsant."[2]

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The drug of choice for control of grand mal and of psychomotor seizures, DILANTIN Sodium (diphenylhydantoin sodium, Parke-Davis) is supplied in many forms including Kapseals of 0.03 Gm. and of 0.1 Gm., in bottles of 100 and 1,000.

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After five years of study, using MILONTIN in a series of 200 patients with petit mal epilepsy, one investigator reports: "Results confirm our previously published data on a smaller number of cases and show that MILONTIN is an effective agent for the treatment of petit mal epilepsy . . . relatively free from untoward side effects."[5]

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TABLE OF CONTENTS

GUEST EDITORIAL
Champagne in a Tin Cup—*A. C. Wyman, M.D.* ---- 241

ORIGINAL ARTICLES
The Relationship of Dermatology to Other Fields of Medicine—*G. A. Grant Peterkin, M.B.E., M.B., Ch.B., F.R.C.P.Ed.* ---- 243

The Radiologic Status of the Esophagogastric Segment—*Christian V. Cimmino, M.D.* ---- 248

Vertigo of Central Origin—*Francis H. McGovern, M.D.* ---- 264

Chronic Idiopathic Jaundice: Dubin-Johnson Disease—*Richard E. Palmer, M.D.*, and *Chai Chang Choi, M.D.* ---- 271

Urinary Bladder Harboring Mechanical Pencil—*Frederick M. Jacobs, M.D., W. Banks Huff, M.D.*, and *P. A. Richards, M.D.* ---- 274

"Physician Know Thy Schools"—*John S. Morris, Jr., M.D.* 276

MENTAL HEALTH
Our Hospital Patients Grow Older ---- 282

PRE-PAID MEDICAL CARE
Rising Costs or Waste ---- 284

PUBLIC HEALTH
Poliomyelitis in Virginia, 1958 ---- 286

THE MEDICAL SOCIETY OF VIRGINIA
Council Minutes ---- 289

WOMAN'S AUXILIARY ---- 293

EDITORIAL
Interpretation of the Electrocardiogram ---- 296
The Keogh Bill and Senator Byrd ---- 298

SOCIETY ACTIVITIES ---- 299

NEWS NOTES ---- 300

OBITUARIES ---- 303

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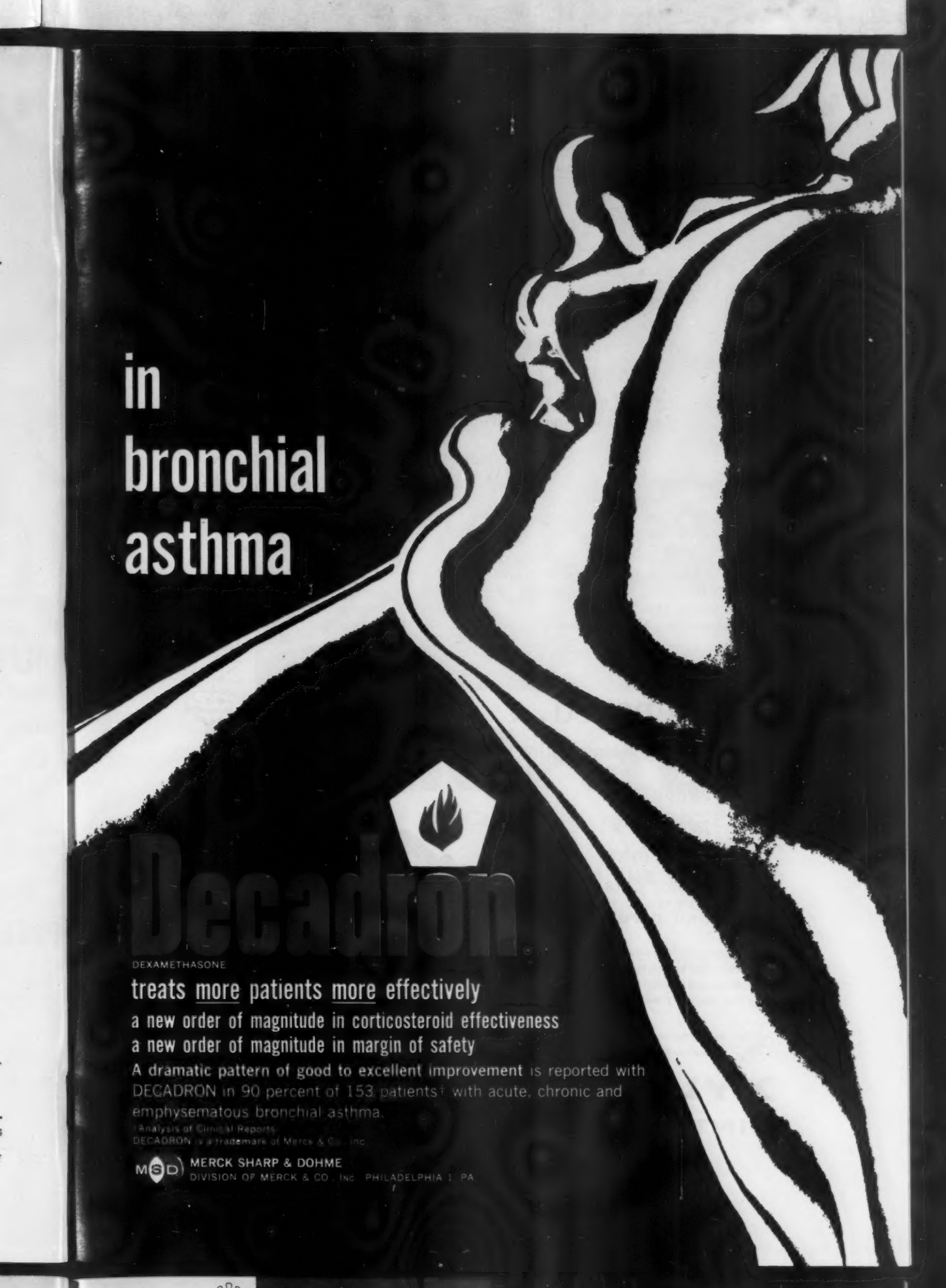
INDEX TO ADVERTISERS—Page 86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These, then, were the objectives. The first scientific breakthrough in the project was the development of the exclusive Micronite filter, patented by Lorillard. This filter was created because of newly-discovered principles in the field of filtration, which have been previously described in these pages.

Though this filter satisfied everyone on its ability to reduce tars and nicotine to the lowest level among the largest selling brands, there was still work to be done in the areas of taste and draw. After additional months of research, a new tobacco blend was developed which delivered rich taste *after* the smoke had passed through the filter. Next in the series of laboratory triumphs was a method of improving the draw to compare with the most free-drawing of all filter brands.

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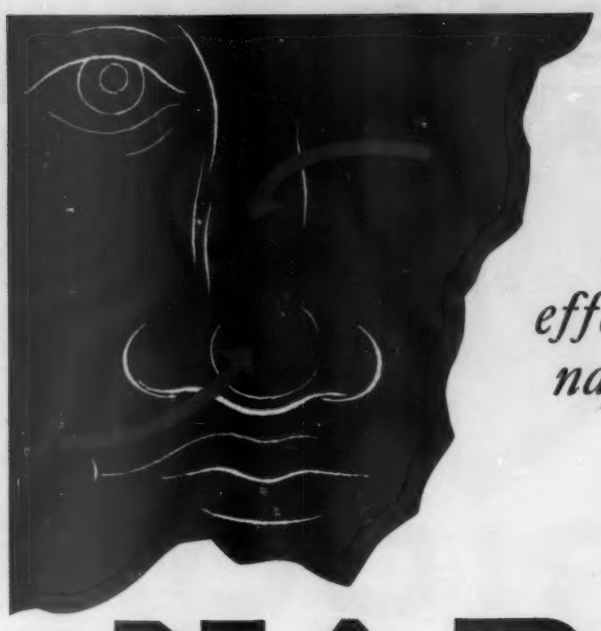

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*Timed Disintegration Capsule affords up to 8 hours relief.

DOSAGE: 1 to 2 tablets p.c. Children 1 tablet, p.c. or 1 capsule b.i.d., 12 hours apart (adults)

SUPPLIED: Bottles of 100 green tablets or orange T.D. Capsules

PDR
PAGE 825

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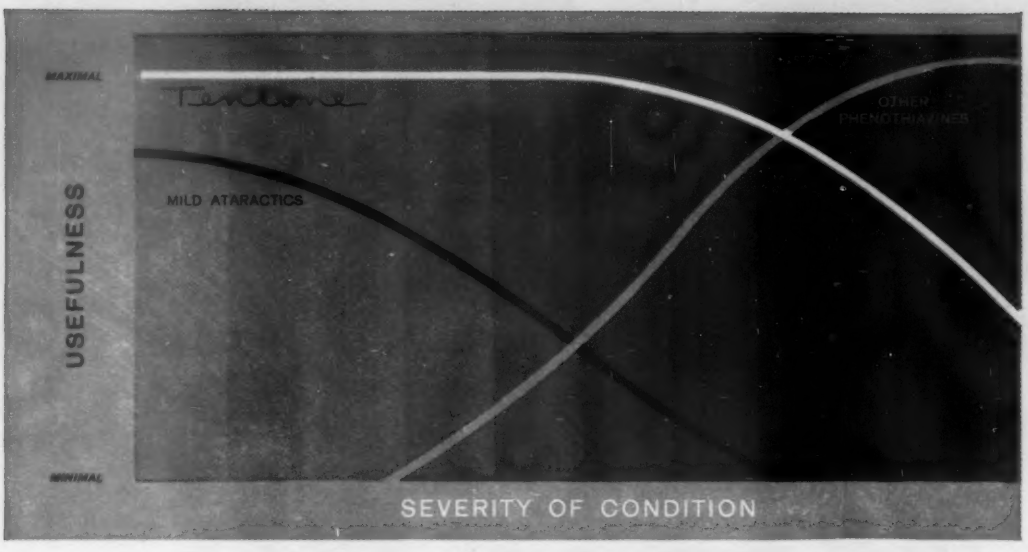

POSITIVE CALMING ACTION ADAPTED FOR LOWER RANGE OF EMOTIONAL DISORDERS

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Consequently, TENTONE is more useful than other ataractic drugs in two areas: (1) mild to moderate conditions—when more than mild sedative effect is sought, (2) middle range of moderate to severe cases—when less than psychopathology is involved.

Indications include ■ common anxiety-tension states ■ obsessive-compulsive behavior ■ neurosis ■ depression ■ situational anxiety and hysteria

And the emotional components of: ■ agitation ■ restlessness ■ tremors ■ insomnia ■ alcohol- and drug-withdrawal syndrome ■ hyperkinesis ■ prenatal anxiety ■ rheumatic disorders ■ dermatoses ■ menopausal syndrome ■ premenstrual tension ■ peptic ulcer, other g.i. disorders ■ asthma, other allergy ■ multiple sclerosis, arteriosclerosis ■ malignancy, other progressive diseases

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Since tranquilizing drugs may potentiate the action of pain-relievers, sedatives, and barbiturates, they should be used with caution in conjunction with them, or to achieve a greater response to these drugs in various conditions when desired. They may also be useful in reduction of effective dosage to better tolerated, or non-habituating levels.

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Dosage must be individualized to severity of condition and response desired.

In mild to moderate cases: **varies from 30 to 100 mg. daily.**

In moderate to severe cases: **from 75 to 500 mg. daily.**

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For continuing prophylaxis patient swallows the entire Dilcoron tablet on an empty stomach.

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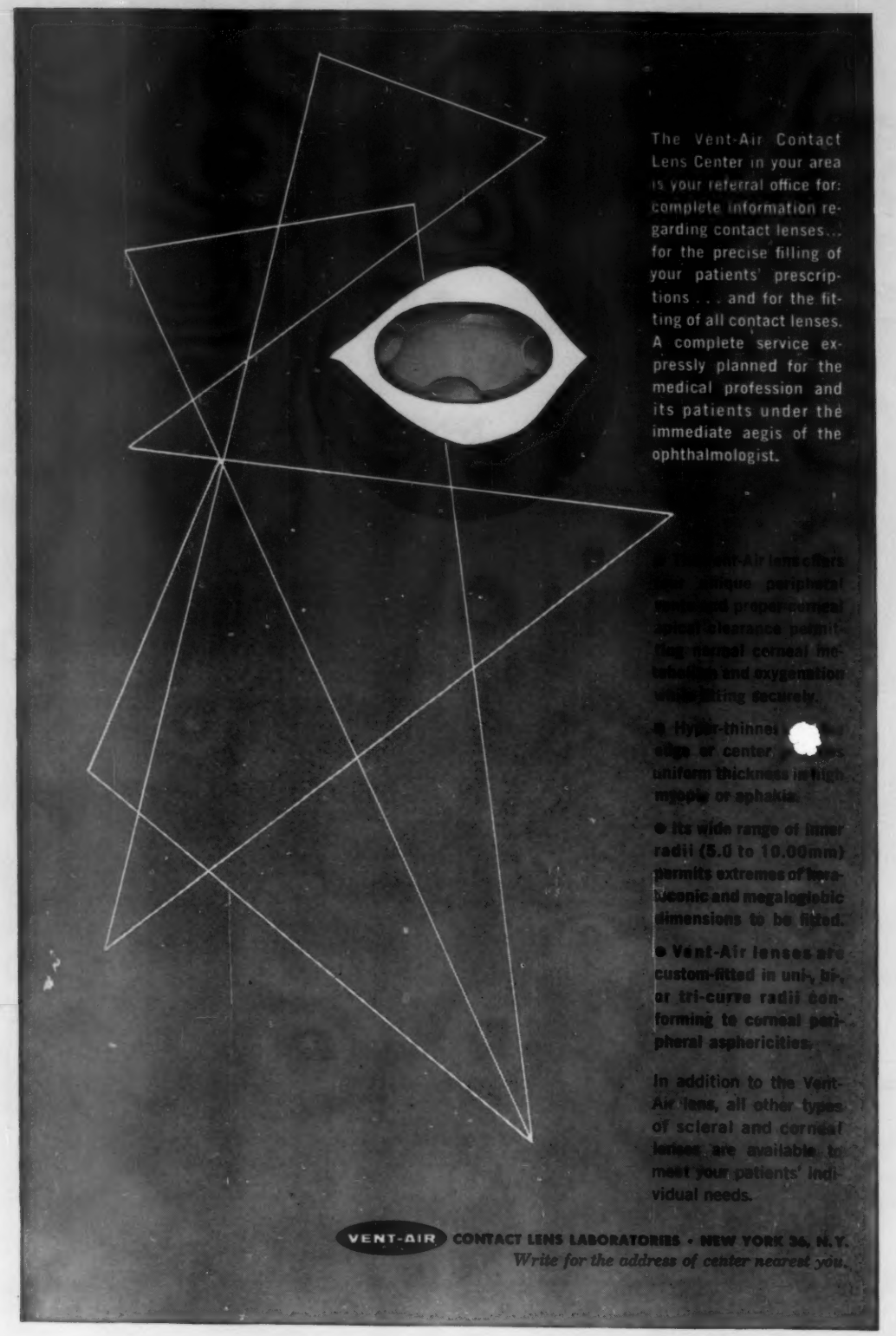
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Dosage: one tablet before each meal.

Supplied: bottles of 100 blue-and-white scored tablets. Prescription only.

References: 1. Charles, C. M.: Geriatrics 2:110 (March) 1956. 2. Menger, H. C.: Clin. Med. 4:313 (March) 1957. 3. Shuster, B. H.: M. Clin. North America 40:1787 (Nov.) 1956.

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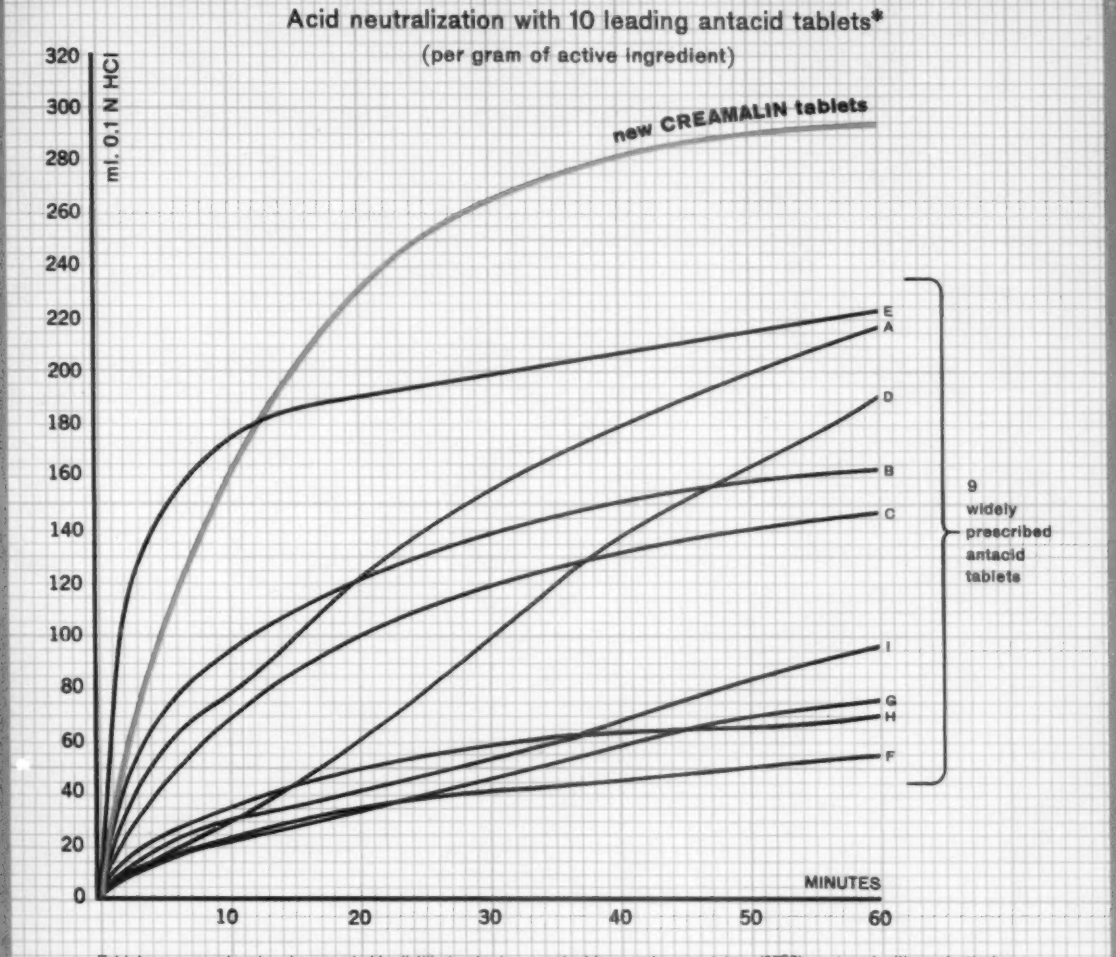
Quicker Relief · Greater Relief



Tablets were powdered and suspended in distilled water in a constant temperature container (37°C) equipped with mechanical stirrer and pH electrodes. Hydrochloric acid was added as needed to maintain the pH at 3.5. Volume of acid required was recorded at frequent intervals for one hour.

*Hinkel, E. T., Jr., Fisher, M. P. and Tainter, M. L.: A new highly reactive aluminum hydroxide complex for gastric hyperacidity. To be published.

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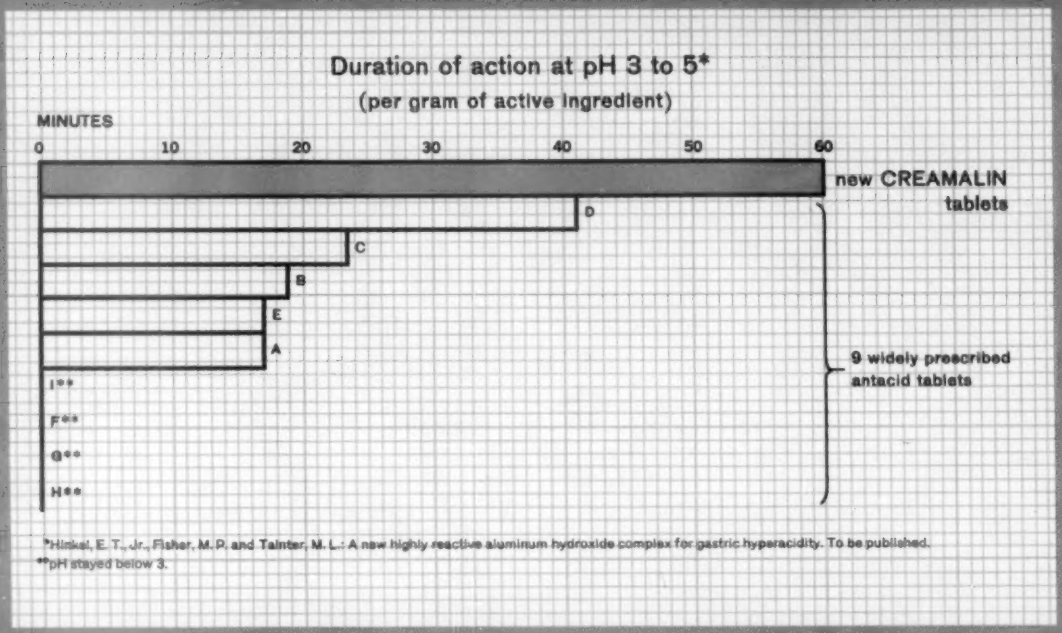

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No chalky taste. New CREAMALIN tablets are not chalky, gritty, rough or dry. They are highy palatable, soft, smooth, easy to chew, mint flavored.

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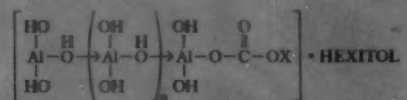

n is at least 1 and averages less than 6. X is a cation.

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Composition: Each Creamalin Antacid Tablet contains 320 mg. specially processed, highly reactive, short polymer dried aluminum hydroxide gel, stabilized with hexitol, with 75 mg. magnesium hydroxide.

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The results of administering Delalutin before the 12th week of gestation to 82 women with habitual abortion were reported recently by Reifenstein.[1] Every patient had experienced at least three consecutive abortions immediately preceding the treated pregnancy. More than 68% of these women were delivered successfully and uneventfully following Delalutin therapy.

Boschann,[2] in a study of pregnancies with threatened abortion, found that:

37% of 73 pregnancies were carried to term without progestational therapy
64% of 42 pregnancies were salvaged by progesterone
83% of 73 pregnancies were salvaged by Delalutin

Eichner,[3] found that with Delalutin fetal salvage of infants below term weight (1000 to 2000 gm.) was significantly improved.
108 (76%) of 142 babies of this birth weight survived without progestational therapy.
16 (100%) of 16 babies of this birth weight survived with Delalutin therapy.
A comparison study was made of a group of repeated aborters treated with Delalutin, and a group with a similar history treated with bed rest and sedation.[4] Pregnancy salvage with Delalutin was twice that of the control group. Delalutin was found to be "highly active," well-tolerated and long-acting.

Delalutin offers these advantages over other progestational agents:

- longer-acting and more sustained therapy
- more effective in producing and maintaining a completely matured secretory endometrium
- no androgenic effect
- more concentrated solution requires injection of less vehicle
- unusually well-tolerated, even in large doses
- requires fewer injections
- low viscosity makes administration easier

DELALUTIN is also potent and safe therapy for: threatened abortion; post-partum after-pains; amenorrhea, primary and secondary; dysfunctional uterine bleeding not associated with genital malignancy; infertility with inadequate corpus luteum function; production of secretory endometrium and desquamation during estrogen therapy; premenstrual tension; dysmenorrhea; cyclomastopathy, mastodynia, adenosis and chronic cystic mastitis.

Administration and Dosage: Because of its low viscosity, Delalutin may be administered with a small gauge needle (deep intragluteal injection). Complete information on administration and dosage is supplied in the package insert.

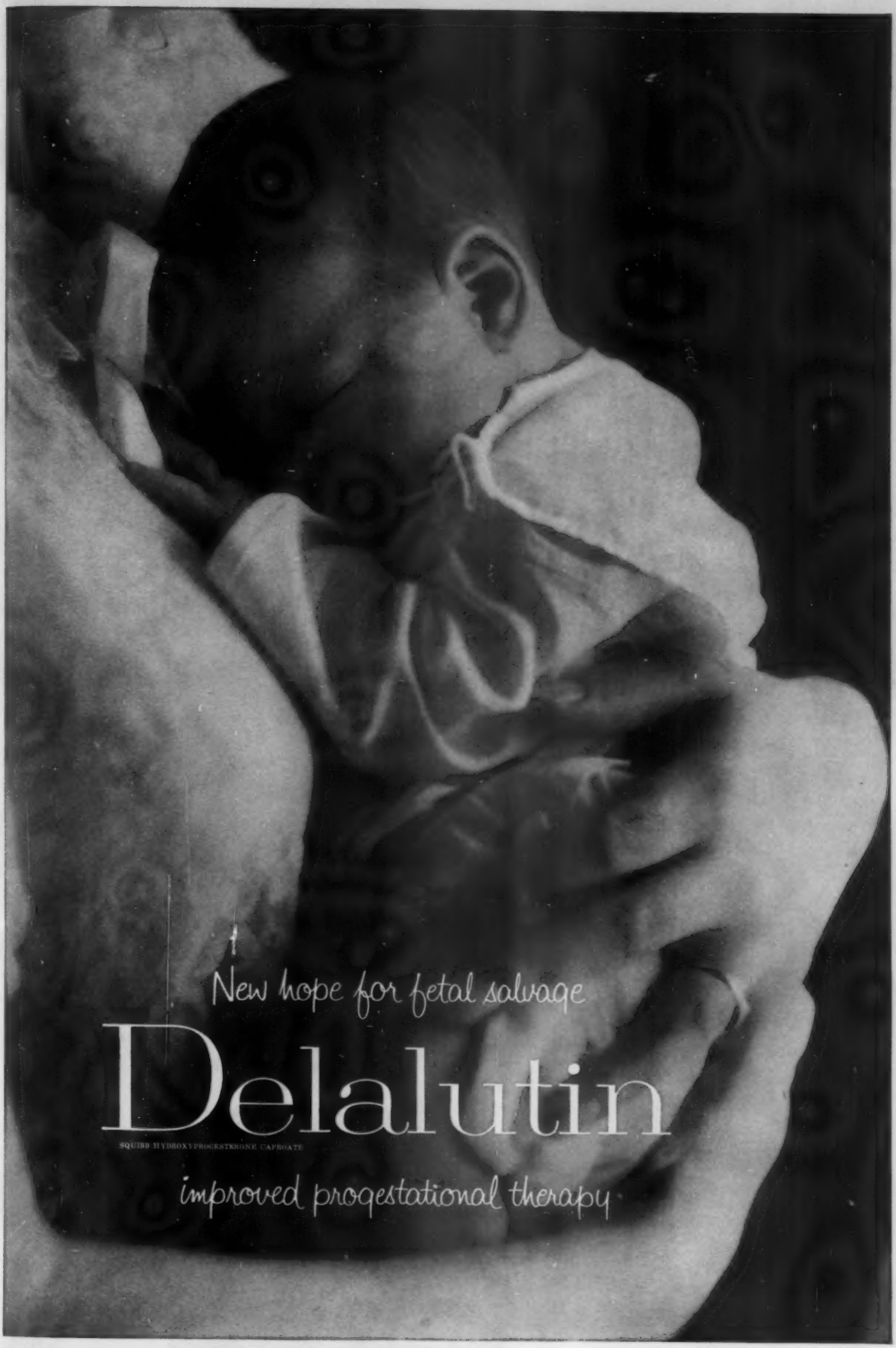
Supply: Delalutin is available in vials of 2 and 10 cc., each cc. containing 125 mg. of hydroxyprogesterone caproate in sesame oil, and benzyl benzoate.

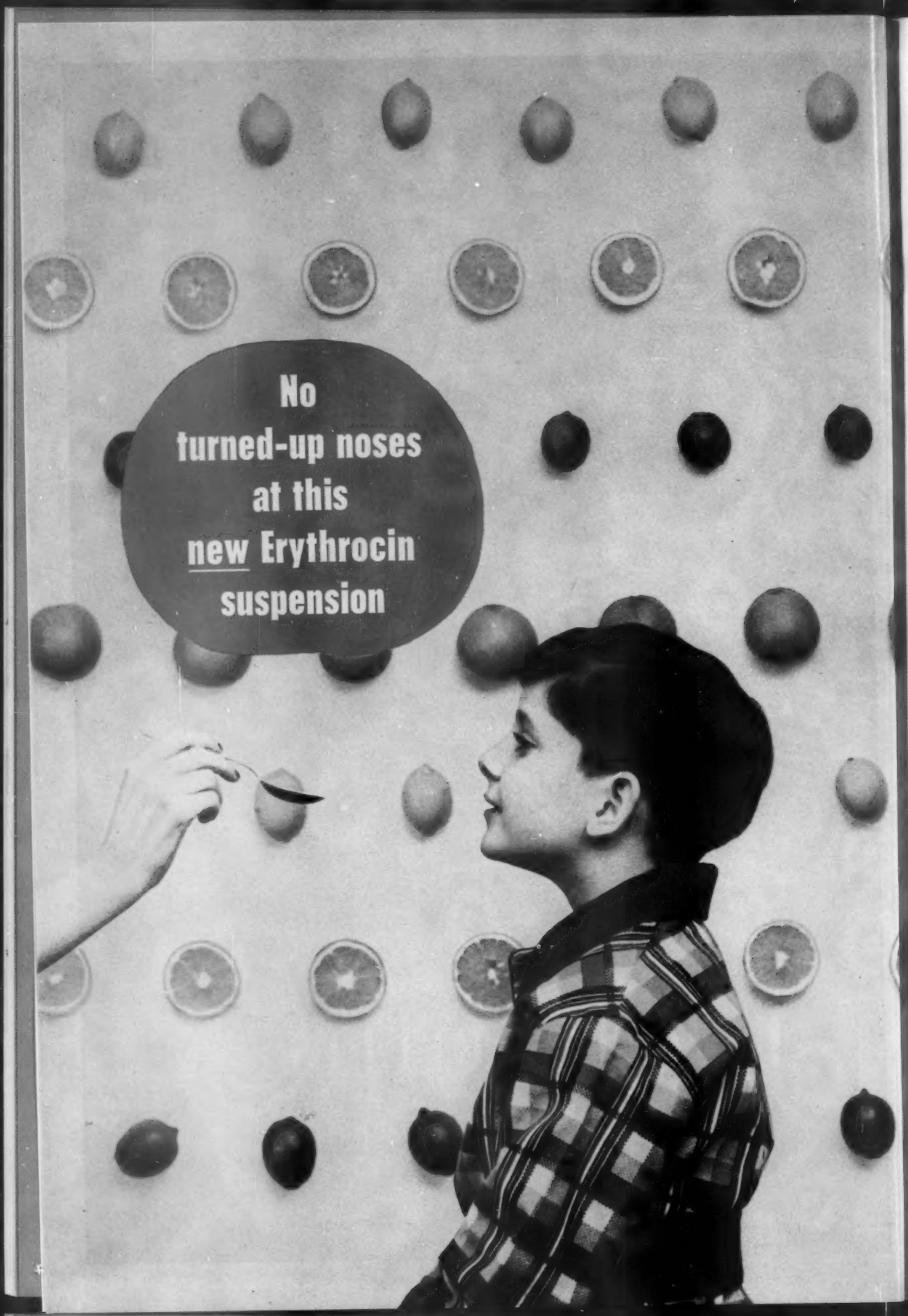
References: 1. Reifenstein, E. C., Jr.: *Annals N. Y. Acad. Sci.* 71:762 (July 30) 1958. 2. Boschann, H-W.: *ibid.*, p. 727. 3. Eichner, E.: *ibid.*, p. 787. 4. Hodgkinson, C. P.; Igna, E. J., and Bukeavich, A. P.: *Am. J. Obst. and Gyn.* 76:279, 1958.

SQUIBB

Squibb Quality—the Priceless Ingredient

'Delalutin'® is a Squibb trademark


New hope for fetal salvage
Delalutin
SQUIBB HYDROXYPROGESTERONE CAPROATE
improved progestational therapy


No
turned-up noses
at this
new Erythrocin
suspension

a new derivative of Erythromycin designed especially for children

CITRUS-FLAVORED

ERYTHROCIN®

ETHYL SUCCINATE

ORAL SUSPENSION

Never a flavor like this in an antibiotic suspension. A new achievement in pharmaceutical elegance—a ready-mixed, stable suspension so sweet and good you can't tell it's "medicine."

No bitterness, no unpleasant aftertaste—just pure, sweet citrus flavor.

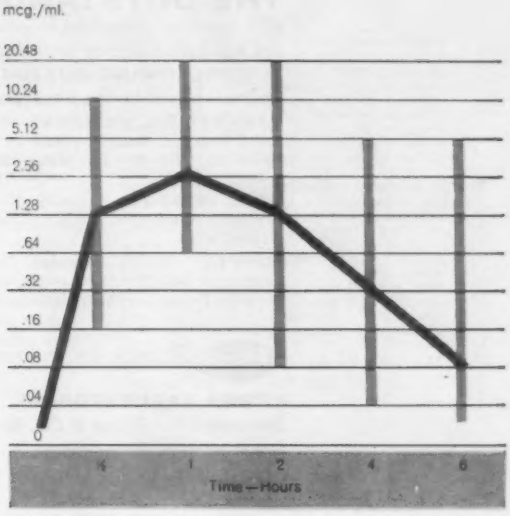
Never an antibiotic better proved against everyday coccal infections. After millions of prescriptions, an unparalleled safety record.

High, peak blood levels within one hour—plus nearly 100% effectiveness against coccal infections. And, unlike broad-spectrum antibiotics, ERYTHROCIN is classed as a bactericidal agent.

Indications: Against staph-, strep- and pneumococci. Especially useful when patients are allergic to penicillin or other antibiotics. **Dosage:** For children, 30 mg./Kg. per day. Adults, 1 to 2 Gm., depending on severity of infection. **Supplied:** In 60-cc., pour-lip bottles. Each 5-cc. teaspoonful represents 200 mg. of Erythrocin. Abbott

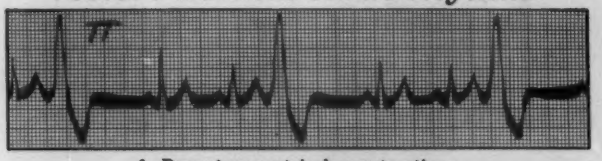
If you're concerned with blood levels . . .

Range of blood levels obtained from one dose of 400 mg. ERYTHROCIN SUSPENSION. Medication was administered to 30 volunteer adults, and represents a dosage of approximately 6 mg./Kg. Bars show ranges—continuous line indicates medians.



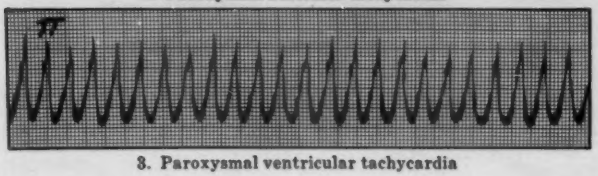
©ERYTHROCIN—ERYTHROMYCIN, ABBOTT 905105

restore normal sinus rhythm



1. Premature ventricular contractions

2. Paroxysmal auricular tachycardia



3. Paroxysmal ventricular tachycardia

in arrhythmias

VISTARIL*

hydroxyzine pamoate

More than a drug

SPECIFIC ANTIARRHYTHMIC EFFECT

Vistaril is effective in ventricular extrasystoles and paroxysmal tachycardias (both auricular and ventricular).

plus

PSYCHOTHERAPEUTIC POTENCY

proven calming action indicated for arrhythmia patients.

and

THE OUTSTANDING SAFETY

of Vistaril as compared to other antiarrhythmic drugs in general use has been noted by investigators.

THE FOLLOWING DOSAGE REGIMEN IS RECOMMENDED

(individualized by the physician for maximum effectiveness):

PARENTERAL DOSAGE: 50-100 mg. (2-4 cc.) I.M. stat., and q. 4-6 h., p.r.n.; maintain with 25 mg. b.i.d. or t.i.d. In acute emergency, 50-75 mg. (2-3 cc.) I.V. stat.; maintain with 25-50 mg. (1-2 cc.) I.V. q. 4-6 h., p.r.n.

ORAL DOSAGE: Initially, 100 mg. daily in divided doses until arrhythmia disappears. For maintenance or prophylaxis, 50-75 mg. daily in divided doses.

SUPPLY: Vistaril Capsules, 25 mg., 50 mg. and 100 mg. Vistaril Parenteral Solution, 10 cc. vials and 2 cc. Steraject® Cartridges. Each cc. contains 25 mg. (as the hydrochloride).

Pfizer *Science for the world's well-being*

PFIZER LABORATORIES
Division, Chas. Pfizer & Co., Inc.
Brooklyn 6, N. Y.

*Trademark

References: 1. Burrell, Z. I., et al.: Am. J. Cardiol., 1:624 (May) 1958. 2. Hutcheon, D. E., et al.: J. Pharmacol. & Exper. Therap., 118:451 (Dec.) 1956.

SQUIBB ANNOUNCES

NEW

RAUTRAX

RAUDIXIN
Squibb Standardized
Whole Root Rauwolfia Serpentina
FLUMETHIAZIDE
POTASSIUM CHLORIDE

A LOGICAL COMBINATION RAUDIXIN ENHANCED
BY AN ENTIRELY NEW DIURETIC — FLUMETHIAZIDE

THUS SQUIBB OFFERS YOU GREATER LATITUDE IN SOLVING THE PROBLEM OF

HYPERTENSION

WITHOUT FEAR OF SIGNIFICANT POTASSIUM DEPLETION[1-3]

Rautrax combines Raudixin with flumethiazide — *the new, safe nonmercurial diuretic* — for control of all degrees of hypertension. Clinicians report it safely and rapidly eliminates excess extracellular sodium and water without potassium depletion.[1-3] Potassium loss is less than with any other nonmercurial diuretic.[1] Moreover, the inclusion of supplemental potassium chloride in Rautrax provides added protection against potassium and chloride depletion in the long-term management of hypertension.

Through this dependable diuretic action of flumethiazide, the clinical and subclinical edema — so often associated with cardiovascular disease — is rapidly brought under control.[3-5] And once Rautrax has brought the fluid balance within normal limits, continued administration does not appreciably alter the normal serum electrolyte pattern. Flumethiazide also potentiates the antihypertensive action of Raudixin. By this unique dual action, a lower dosage of each ingredient effectively maintains safe antihypertensive therapy.

Dosage: 2 to 6 tablets daily in divided doses initially; may be adjusted within range of 1 to 6 tablets daily in divided doses. **Note:** In hypertensive patients already on ganglionic blocking agents, veratrum and/or hydralazine, the addition of Rautrax necessitates an immediate dosage reduction of these agents by at least 50%. A similar reduction is necessary when these agents are added to the Rautrax regimen.

Supply: Capsule-shaped tablets supplying 50 mg. of Raudixin, 400 mg. of flumethiazide, and 400 mg. of potassium chloride, bottles of 100.

References: 1. Moyer, J. H., and others: Am. J. Cardiol., 3:113 (Jan.) 1959. • 2. Bodi, T., and others: To be published, Am. J. Cardiol., (April) 1959. • 3. Fuchs, M., and others: Monographs on Therapy, 4:43 (April) 1959. • 4. Montero, A. C.; Rochelle, J. B., III, and Ford, R. V.: To be published. • 5. Rochelle, J. B., III; Montero, A. C., and Ford, R. V.: To be published.

LITERATURE AVAILABLE ON REQUEST.

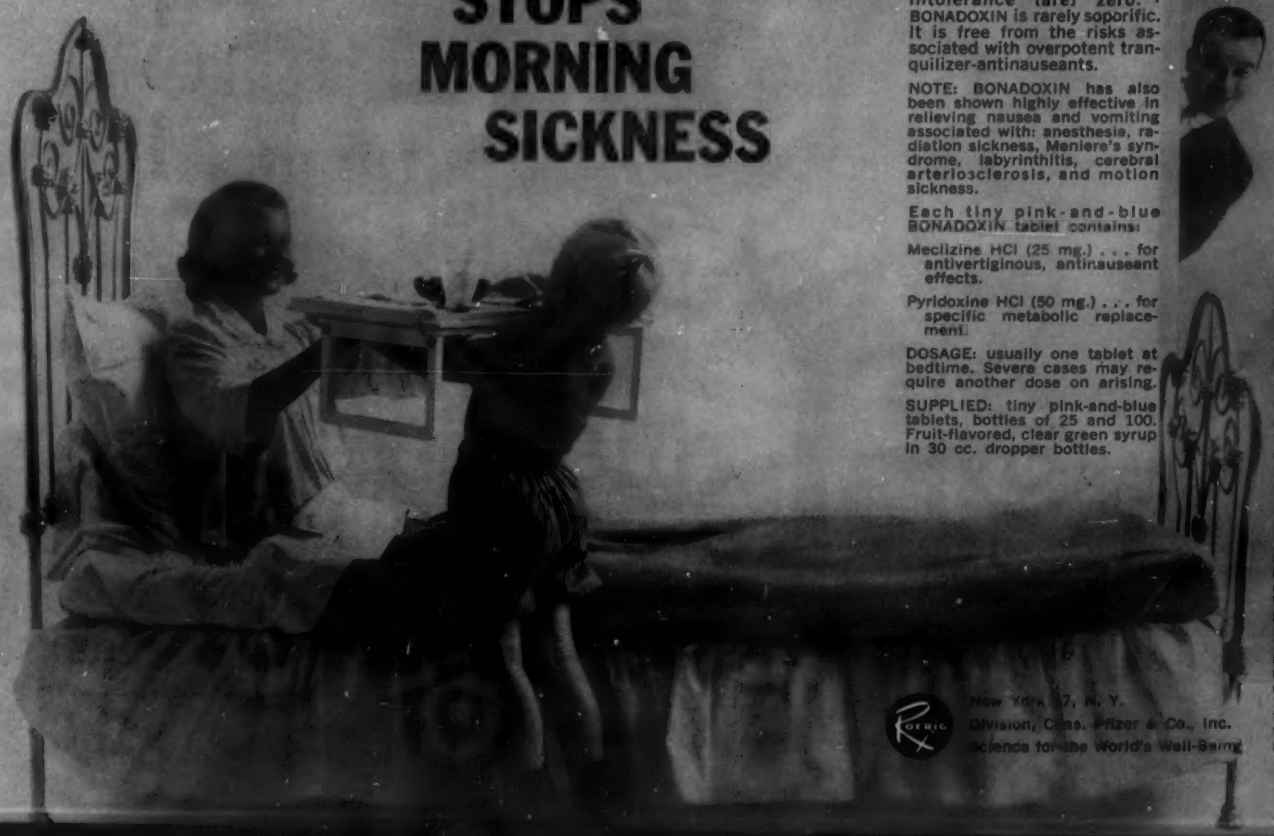
'RAUDIXIN®' AND 'RAUTRAX' ARE SQUIBB TRADEMARKS

SQUIBB Squibb Quality — the Priceless Ingredient

BONADOXIN®

(tablets and drops)

STOPS STOPS STOPS MORNING SICKNESS



BONADOXIN Tablets relieve nausea and vomiting of pregnancy in 9 out of 10,[1-7] often within a few hours.

Moreover, a controlled study of 620 cases reported that with BONADOXIN "toxicity and intolerance [are] zero."[1] BONADOXIN is rarely soporific. It is free from the risks associated with overpotent tranquilizer-antinauseants.

NOTE: BONADOXIN has also been shown highly effective in relieving nausea and vomiting associated with: anesthesia, radiation sickness, Meniere's syndrome, labyrinthitis, cerebral arteriosclerosis, and motion sickness.

Each tiny pink-and-blue BONADOXIN tablet contains:

Meclizine HCl (25 mg.) . . . for antivertiginous, antinauseant effects.

Pyridoxine HCl (50 mg.) . . . for specific metabolic replacement.

DOSAGE: usually one tablet at bedtime. Severe cases may require another dose on arising.

SUPPLIED: tiny pink-and-blue tablets, bottles of 25 and 100. Fruit-flavored, clear green syrup in 30 cc. dropper bottles.

Infant colic? BONADOXIN DROPS are antispasmodic . . . stop colic in 84%,[8-10] without the risk of belladonna and barbiturates.

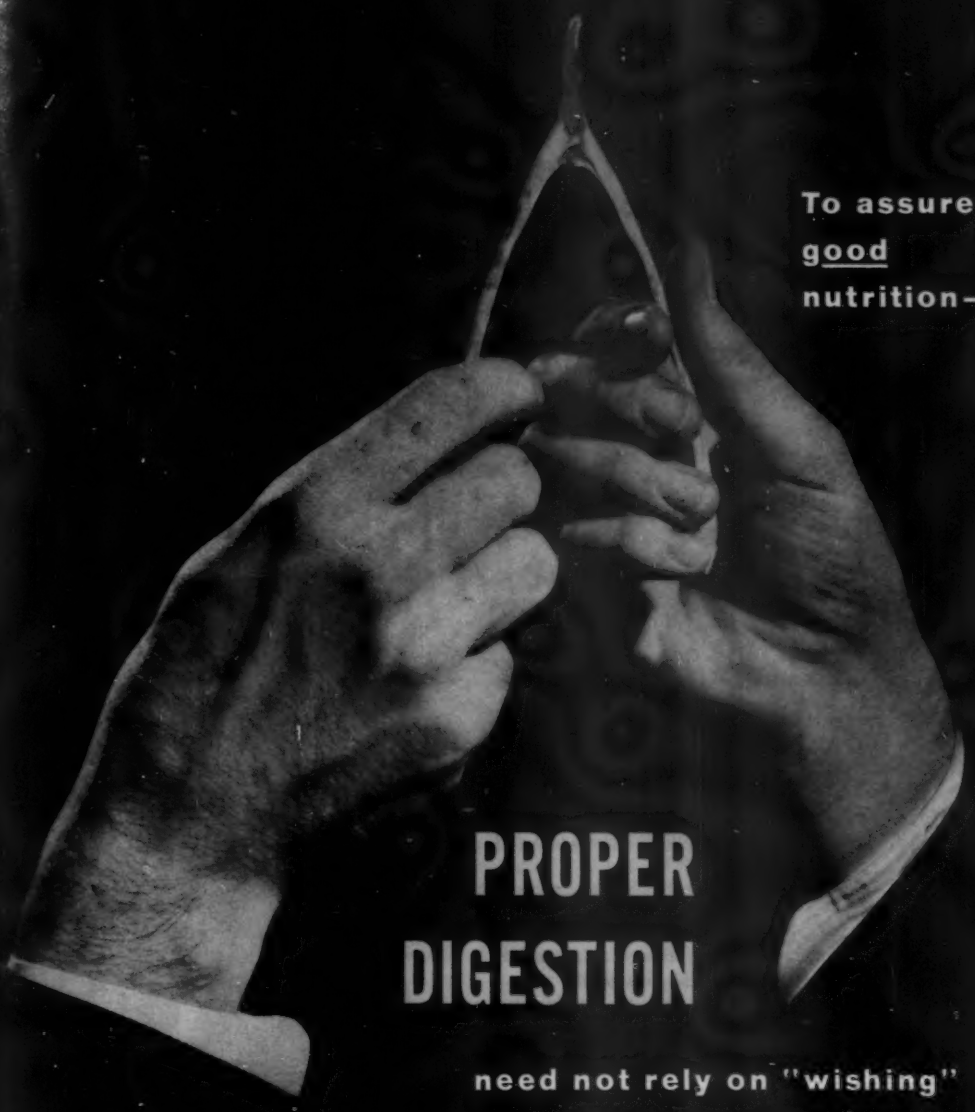
Each cc. contains:
Meclizine dihydrochloride . . 8.33 mg.
Pyridoxine hydrochloride . . . 16.67 mg.

Dosage:

under 6 months	0.5 cc.	2 or 3 times daily, on the tongue, in fruit juice or water
6 months to 2 years	1.5 to 2 cc.	
2 to 6 years . .	3 cc.	
adults and children over 6	1 tsp. (5 cc.)	

References: 1. Goldsmith, J. W.: Minnesota Med. 40:99 (Feb.) 1957. 2. Grossloss, H. H., et al.: Clin. Med. 2:885 (Sept.) 1955. 3. Weinberg, A., and Werner, W. E. F.: Am. Pract. & Digest Treat. 6:580 (April) 1955. 4. Crawley, C. R.: West. J. Surg. 8:463 (Aug.) 1956. 5. Tartikoff, G.: Clin. Med. 3:223 (March) 1955. 6. Dunn, R. D., and Fox, L. P.: Clinical exhibit. 7. Codling, J. W., and Lowden, R. J.: Northwest Med. 57:331 (March) 1958. 8. Dougan, H. T.: Personal communication. 9. Leonard, C. L.: Personal communication. 10. Steinberg, C. L.: Personal communication.

New York 17, N. Y.
Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being



To assure good nutrition—

PROPER DIGESTION

need not rely on "wishing"

As a comprehensive supplement to deficient natural secretion of digestive enzymes, particularly in older patients, ENTOZYME effectively improves nutrition by bridging the gap between adequate ingestion and proper digestion. Among patients of all ages, it has proved helpful in chronic cholecystitis, post-cholecystectomy syndrome, subtotal gastrectomy, pancreatitis, dyspepsia, food intolerance, flatulence, nausea and chronic nutritional disturbances.

Each double layered Entozyme tablet contains:

Pepsin, N.F.	250 mg.
—released in the stomach from gastric soluble outer coating of tablet	
Pancreatin, U.S.P.	300 mg.
Bile Salts	150 mg.
—released in the small intestine from enteric coated inner core.	

A. H. ROBINS CO., INC.
Richmond 20, Virginia
Ethical Pharmaceuticals of Merit since 1878

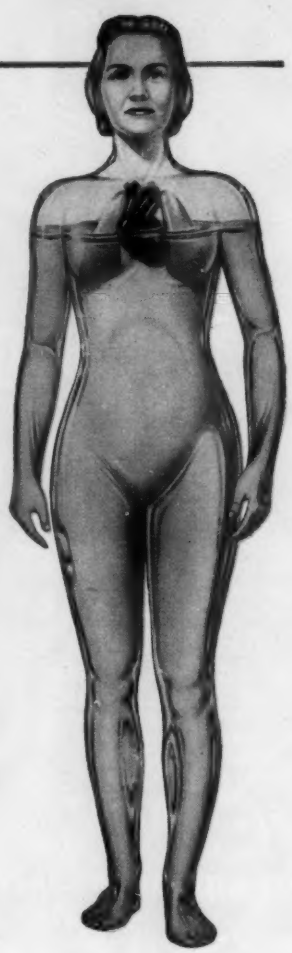
For comprehensive digestive enzyme replacement—

ENTOZYME

Robins

From basic research—basic progress

A NEW MEASURE OF ACTIVITY



IN EDEMA:

- shows greater oral effectiveness than any other class of diuretic agent
- each 25 mg. HYDRODIURIL orally is equivalent to 1.6 cc. meralluride I.M.
- has been reported to be effective even in patients who do not respond satisfactorily to other diuretics
- has prompt onset of action with diuretic effectiveness maintained even on prolonged daily administration
- low toxicity—extremely well tolerated
- often achieves the benefits of a low salt diet without the unpleasant restriction

Indications: Hypertension, congestive heart failure of all degrees of severity, premenstrual syndrome (edema), edema and toxemia of pregnancy, renal edema—nephrosis, nephritis; cirrhosis with ascites, drug-induced edema, and as adjunctive therapy in the management of obesity complicated by edema.

Dosage: In edema—one or two 50 mg. tablets of HYDRODIURIL once or twice a day.

In hypertension—one or two 25 mg. tablets or one 50 mg. tablet HYDRODIURIL once or twice a day.

Supplied: 25 mg. and 50 mg. scored tablets HYDRODIURIL (Hydrochlorothiazide) in bottles of 100 and 1,000.

*HYDRODIURIL and DIURIL are trademarks of Merck & Co., INC.

Additional information on HYDRODIURIL is available to the physician on request.

Bibliography: 1. Esch, A. F., Wilson, I. M. and Freis, E. D.: 3,4-Dihydrochlorothiazide: Clinical Evaluation of a New Saluretic Agent. Preliminary Report; M. Ann. District of Columbia **28**:9, (Jan.) 1959. 2. Ford, R. V.: The Clinical Pharmacology of Hydrochlorothiazide; Southern Med. J.**52**:40, (Jan.) 1959. 3. Fuchs, M., Bodi, T., Irie, S. and Moyer, J. H.: Preliminary Evaluation of Hydrochlorothiazide ('HYDRODIURIL'); M. Rec. & Ann. **51**:872, (Dec.) 1958. 4. Moyer, J. H., Fuchs, M., Irie, S. and Bodi, T.: Some Observations on the Pharmacology of Hydrochlorothiazide; Am. J. Cardiol. **3**:113, (Jan.) 1959.

HYDRO**DIURIL** (HYDROCHLOROTHIAZIDE)

- highly-active derivative of chlorothiazide
- qualitatively similar to DIURIL® but at least 10 to 12 times more potent by weight
- loss of potassium is clinically insignificant in the great majority of patients on normal diets

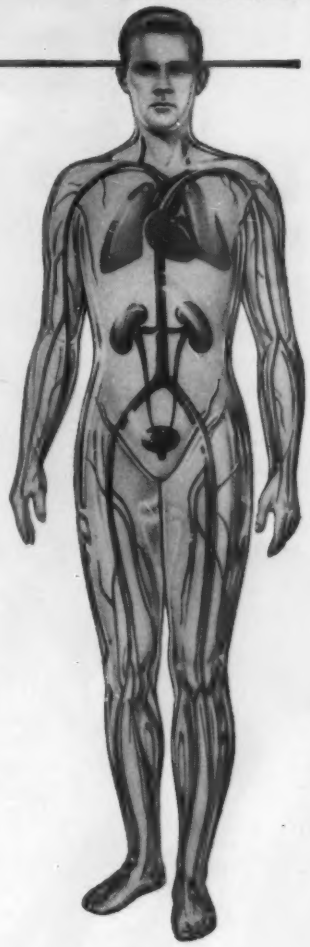
HYDRODIURIL*

NEW RELEASE

HYDROCHLOROTHIAZIDE

IN HYPERTENSION:

- effective by itself in some patients—markedly potentiates other antihypertensive agents
- provides background therapy to improve and simplify the management of all grades of hypertension
- has been reported by some investigators to have a greater antihypertensive effect in some patients than chlorothiazide at equivalent dosage
- does not lower blood pressure in normotensives
- reduces dosage requirements for other antihypertensive agents, often with concomitant reduction in their distressing side effects
- smooths out blood pressure fluctuations



precautions: It is important that the dosage be adjusted as frequently as the needs of the individual patient demand. When HYDRODIURIL is used with a ganglion blocking agent, it is mandatory to reduce the dose of the latter by at least 50 per cent, immediately upon adding HYDRODIURIL to the regimen.

HYDRODIURIL has shown no adverse effects on renal function; for this reason it may be used with excellent results even in patients for whom the organomercurials are contraindicated because of renal damage.

The excretion of potassium is much lower than that of sodium or chloride and, as is the case with DIURIL®, the loss of potassium is clinically insignificant in the great majority of patients on normal diets. If indicated, potassium loss may easily be replaced by including potassium-rich foods in the diet (orange juice, bananas, etc.).

MSD

MERCK SHARP & DOHME

Division of Merck & Co., INC. Philadelphia 1, Pa.

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relieve the tension

—and control its G.I. sequelae

Patient A.S., age 53.
Intermittent crises of severe pain over 2 year period; hospital management with Sippy regimen provided relief of symptoms; however, symptoms recurred after each sojourn.

PATHIBAMATE *(Tabs. j t.i.d. and H.S.);* prompt relief of symptoms. Radiograph (21 days later) confirms healing of minute lesser curvature gastric ulcer crater.

predictable results in the control of tension and G.I. trauma

Pathibamate®

Meprobamate with PATHILON® Tridihexethyl Chloride* LEDERLE

Used prophylactically in anticipation of periods of emotional stress, or therapeutically to relieve tension and curb hypermotility and hypersecretion, PATHIBAMATE is particularly well-formulated for the control of gastrointestinal disorders.

PATHIBAMATE combines Meprobamate (400 mg.) — the noted tranquilizer-muscle relaxant widely accepted for safe management of tension and anxiety states — and PATHILON (25 mg.) — an extremely well-tolerated anticholinergic, long noted for prompt symptomatic relief based on peripheral atropine-like action with few side effects.

Indications:
Duodenal ulcer, gastric ulcer, intestinal colic, spastic and irritable colon, ileitis, esophageal spasm, anxiety neurosis with gastrointestinal symptoms, gastric hypermotility.

Supplied:
Bottles of 100 and 1,000. Each tablet (yellow, ½-scored) contains Meprobamate, 400 mg.; PATHILON Tridihexethyl Chloride, 25 mg.

Administration and Dosage:
1 tablet three times a day at mealtimes and 2 tablets at bedtime. Adjust dosage to patient response. Contraindicated in glaucoma, pyloric obstruction, and obstruction of the urinary bladder neck.

Also Available: PATHILON in four forms — ***Tablets*** of 25 mg., plain (pink) or with *phenobarbital*, 15 mg. (blue);
Parenteral — 10 mg./cc. — 1 cc. ampuls;
Pediatric Drops — 5 mg./cc. — dropper vials of 15 cc.

*PATHILON is now offered as tridihexethyl chloride instead of the iodide, an advantage permitting wider use, since the latter could interfere with the results of certain thyroid function tests.

Lederle LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

NOW

. . . a new way to relieve pain and stiffness in muscles and joints

INDICATED IN:

MUSCLE STIFFNESS

LUMBOSACRAL STRAIN

SACROILIAC STRAIN

WHIPLASH INJURY

BURSITIS

SPRAINS

TENOSYNOVITIS

FIBROSITIS

FIBROMYOSITIS

LOW BACK PAIN

DISC SYNDROME

SPRAINED BACK

"TIGHT NECK"

TRAUMATIC STRAINS AND BRUISES

POSTOPERATIVE MYALGIA

■ Exhibits unusual analgesic properties, different from those of any other drug ■ Specific and superior in relief of SOMAtic pain ■ Modifies central perception of pain without abolishing natural defense reflexes ■ Relaxes abnormal tension of skeletal muscle

SOMA™

N-isopropyl-2-methyl-2-propyl-1, 3-propanediol dicarbamate

■ More specific than salicylates ■ Less drastic than steroids

■ More effective than muscle relaxants

SOMA has an unique analgesic action. It apparently modifies central pain perception without abolishing peripheral pain reflexes. SOMA is particularly effective in relieving joint pain. Patients say that they feel better and sleep better with SOMA than with any previously used analgesic, sedative or relaxant drug.
SOMA also relaxes muscle hypertonia, with its stresses on related joints, ligaments and skeletal structures.

ACTS FAST. Pain-relieving and relaxant effects start in 30 minutes and last 6 hours.

NOTABLY SAFE. Toxicity of SOMA is extremely low. No effects on liver, endocrine system, blood pressure, blood picture or urine have been reported. Some patients may become sleepy on high dosage.

EASY TO USE. Usual adult dose is one 350 mg. tablet 3 times daily and at bedtime.

SUPPLIED: Bottles of 50 white sugar-coated 350 mg. tablets.

Literature and samples on request.

WALLACE LABORATORIES, NEW BRUNSWICK, N. J.

What your Patients can Expect from
PEOPLES DRUG STORES
Prescription Departments—

- Complete, up-to-date stock of the most modern drugs, as well as all the older drugs now being prescribed.
- Only fresh, high-quality drugs are used in filling their prescriptions.
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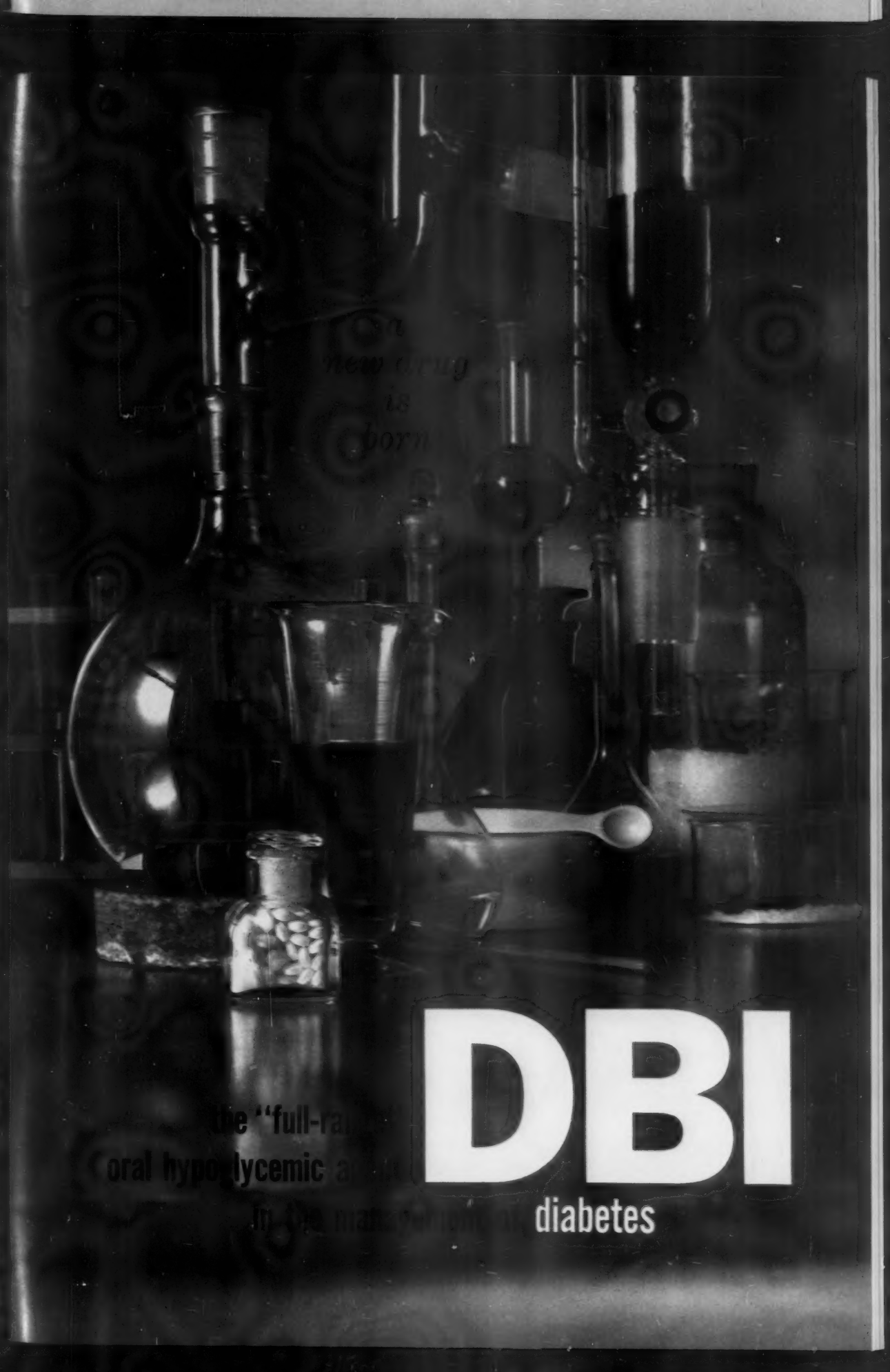

DBI
diabetes

the "full-range" oral hypoglycemic agent

Trademark, brand of Phenformin

DBI (N^1-β-phenethylbiguanide HCl) is an entirely new oral hypoglycemic compound, different in chemical structure, mode of action, and in spectrum of activity from the sulfonylureas. DBI is usually effective in low dosage range (50 to 150 mg. per day).

"full-range" hypoglycemic action — DBI lowers elevated blood-sugar and eliminates glycosuria in *mild, moderate* and *severe* diabetes mellitus . . .

brittle diabetes, juvenile or adult — DBI combined with injected insulin improves regulation of the diabetes and helps prevent the wide excursions between hypoglycemic reactions and hyperglycemic ketoacidosis.

stable adult diabetes — satisfactory regulation of diabetes is often achieved with DBI alone without the necessity for insulin injections.

juvenile diabetes — DBI often permits a reduction as great as 50 per cent or more in the daily insulin requirement.

primary and secondary sulfonylurea failures — DBI alone, or in conjunction with a sulfonylurea, often permits satisfactory regulation of diabetes in patients who have failed to respond initially or who have become resistant to oral sulfonylurea therapy.

smooth onset — less likelihood of severe hypoglycemic reaction — DBI has a smooth, gradual blood-sugar lowering effect, reaching a maximum in from 5 to 6 hours, and a return to pre-treatment levels usually in 10 to 12 hours.

safety — daily use of DBI in therapeutic dosage for varying periods up to 2½ years has produced no form of clinical toxicity.

side reactions — side reactions produced by DBI are chiefly gastrointestinal and occur with increasing frequency at higher dosage levels (exceeding 150 mg. per day). Anorexia, nausea or vomiting may occur — but these symptoms abate promptly upon reduction in dose or withdrawal of DBI.

supplied — DBI, 25 mg. scored, white tablets — bottle of 100.

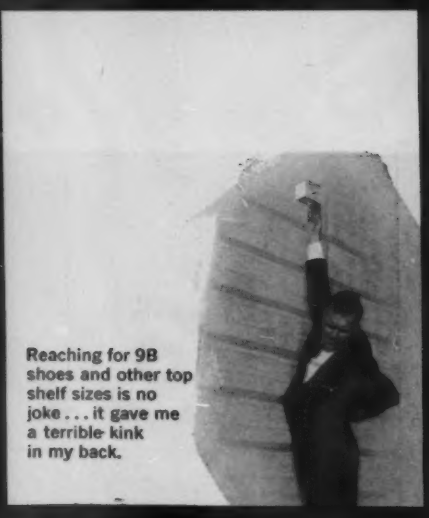
IMPORTANT — before prescribing DBI the physician should be thoroughly familiar with general directions for its use, indications, dosage, possible side effects, precautions and contraindications, etc. Write for complete detailed literature.

an original development from the research laboratories of

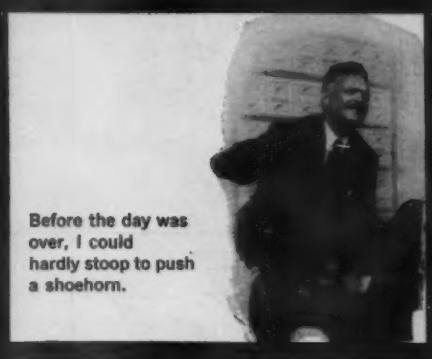
u.s. vitamin & pharmaceutical corporation

Arlington-Funk Laboratories, division
250 East 43rd Street, New York 17, N.Y.

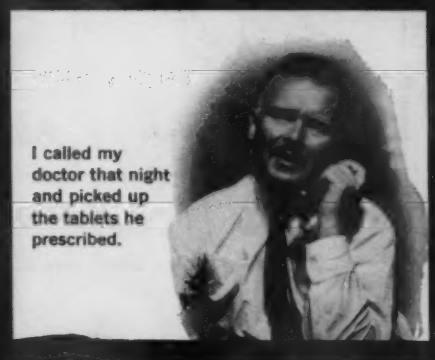
REACHING FOR THOSE 9B's NEARLY PUT ME ON THE SHELF...



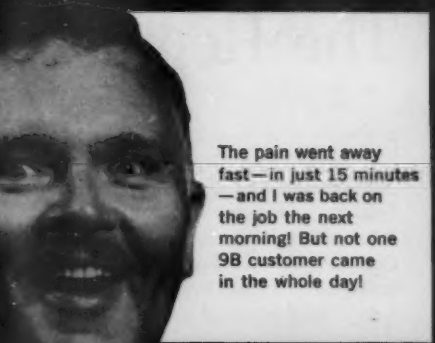
Reaching for 9B shoes and other top shelf sizes is no joke . . . it gave me a terrible kink in my back.



Before the day was over, I could hardly stoop to push a shoehorn.



I called my doctor that night and picked up the tablets he prescribed.



The pain went away fast—in just 15 minutes—and I was back on the job the next morning! But not one 9B customer came in the whole day!

Percodan®-Demi & Percodan® Tablets

Salts of Dihydrohydroxycodeinone and Homatropine, plus APC

FOR PAIN

ACTS FASTER – usually within 5-15 minutes. **LASTS LONGER** – usually 6 hours or more. **MORE THOROUGH RELIEF** – permits uninterrupted sleep through the night. **RARELY CONSTIPATES** – excellent for chronic or bedridden patients. **VERSATILE** – new "demi" strength permits dosage flexibility to meet each patient's specific needs. PERCODAN-DEMI provides the PERCODAN formula with one-half the amount of salts of dihydrohydroxycodeinone and homatropine.

AVERAGE ADULT DOSE: 1 tablet every 6 hours. May be habit forming. Federal law permits oral prescription.

Each PERCODAN® Tablet contains 4.50 mg. dihydrohydroxycodeinone hydrochloride, 0.38 mg. dihydrohydroxycodeinone terephthalate, 0.38 mg. homatropine terephthalate, 224 mg. acetylsalicylic acid, 160 mg. phenacetin, and 32 mg. caffeine.

AND THE PAIN WENT AWAY FAST

Endo®

Literature? Write
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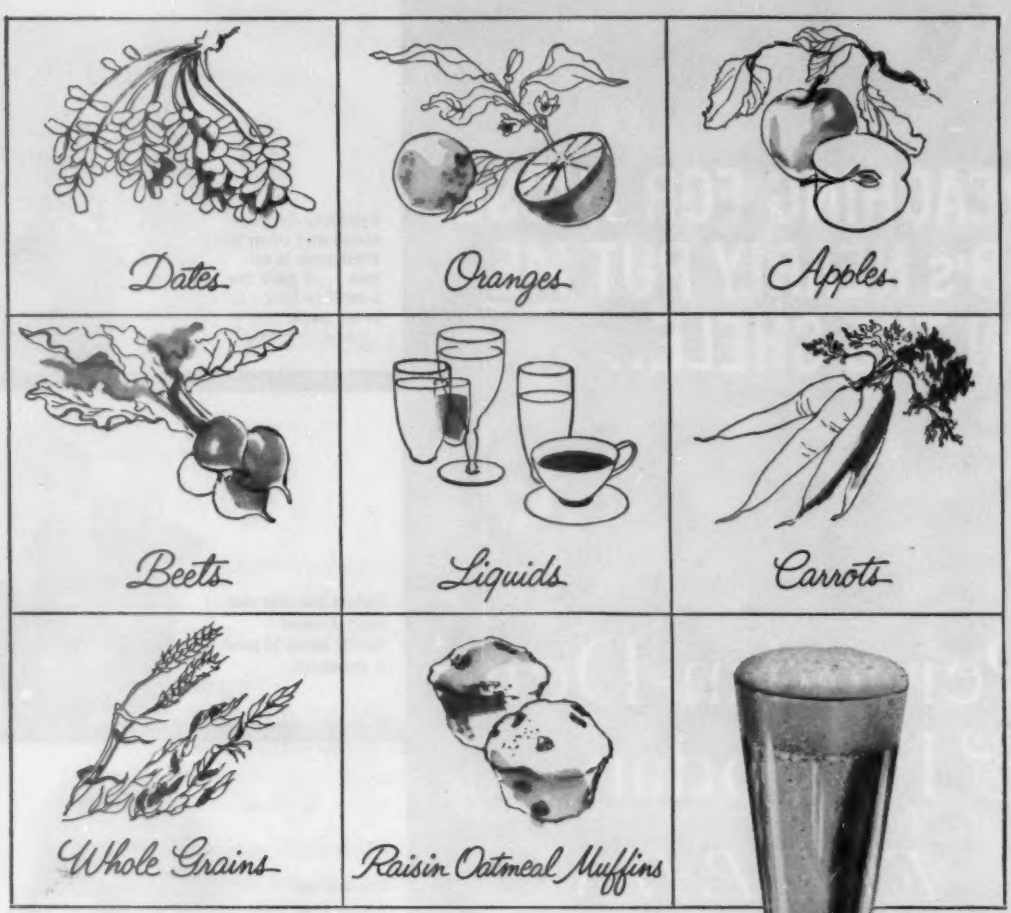

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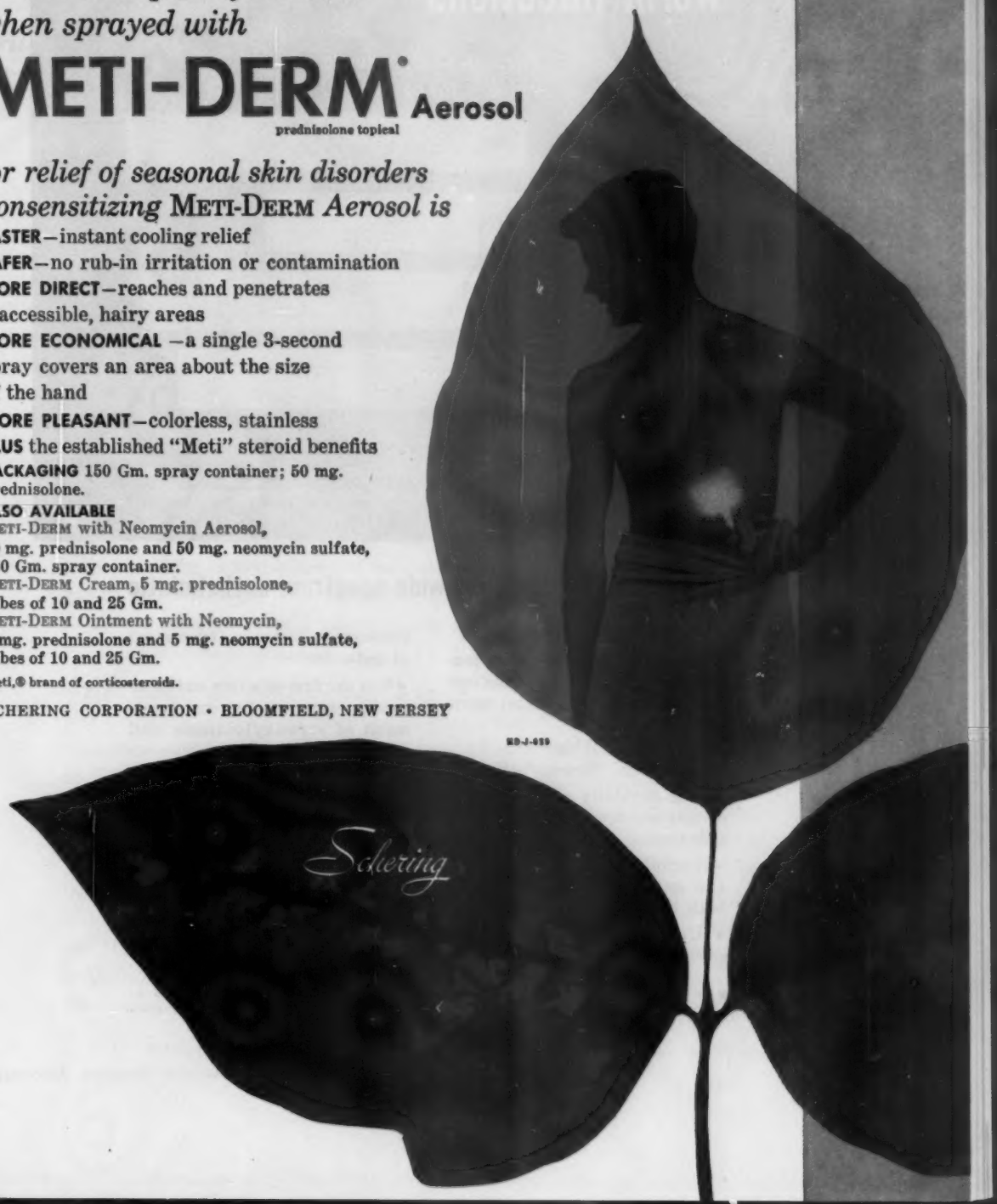

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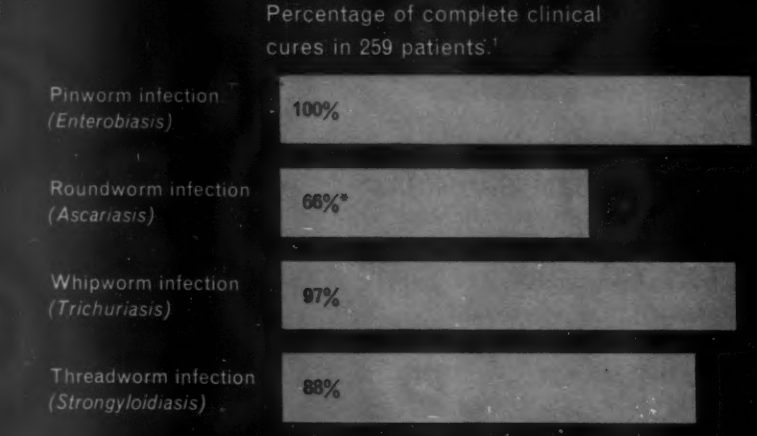

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1. Swartzwelder, J. C., et al.: J.A.M.A., 165:2063, 1957.

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Guest Editorial....

Champagne in a Tin Cup

THERE IS A STYLIZED CONCEPT, closer to veridity than the novelist or playwright-creator would himself believe, of the great halls of American graduate medical education. This is the large hospital or the University center to which the newly graduated physician comes, to participate in the intense academic and scientific milieu within its walls. Here a young doctor discovers a quantity of the science of medicine and he develops a quality of application of that quantity of knowledge. Both are variables, and functions of many other variables—the individual and his emotional content, his training in college and medical school, and the inspirational guidance of his medical seniors. Here, as he ripens, he ascends the hierarchical ladder through internship to residency, and be becomes in time the disciple of some renowned white-coated Oslerian figure of the center. And in time, too, the disciple becomes white-coated and has his own disciples. This rich medical inbreeding perpetuates the fertile traditions of the medical center and the creativeness of its inhabitants. It is a continuum, both natural and proper, which promises a constant supply of skillfully trained physicians, many who become America's teachers, the major researchers, and the competent practitioners of medicine.

Eight hundred and sixty-seven hospitals offered 12,325 internships for the academic year 1957-1958 in the United States and its possessions.[1] To fill these available positions, there were 7,000 students graduated from American colleges of medicine. This disparity resulted in 17% unfilled positions, with some vacancies filled by foreign medical school graduates. Seventy-six per cent of the hospitals offering internships were those not designated by medical schools as participating in their programs of undergraduate medical education. Of this group, there were 598 hospitals of less than 500-bed capacity, offering 6,828 internships (about 50% of the national total), with 82% of the positions filled. These data, of the Council on Medical Education and Hospitals of the American Medical Association, indicate that 69% of American hospitals approved for internship are non-affiliated with medical schools, are less than 500-bed capacity, and offer nearly half of the internships to medical school graduates.

In the main, these non-affiliated hospitals are community institutions, providing

for the medical needs of a large proportion of the nation's people. These hospitals are "investigated and approved by the Council on Medical Education and Hospitals, (and) are considered in position to furnish acceptable intern training in accordance with standards adopted by the American Medical Association". This can only be true if the smaller community hospital has an ardent nucleus of its attending staff devoted to the continuing stimulation and supervision of its intern staff. There is, of course, only so much room at the apex of medical hierarchy, so little is the wonder that many of the white-coated disciples, and disciples of disciples, disperse to the cities, to the towns and to the provinces, there to become the local teachers, the minor researchers and the local competent practitioners of medicine. For these, this is not the stylized version of the ivory tower, the grand grand rounds, or the quiet cloistered laboratory. It is, however, the day-to-day care of the nation's ill or injured, in the nation's community hospitals. It is the staff conferences and ward rounds in community hospitals, invigorated by the eagerness of the inquisitive intern and energized by the dedicated attending physician who knows his responsibility and loves his work. It is the occasional new discovery of a truth about a human ailment, uncovered on the wards, or in the laboratory, or by x-ray study—occasional, but no less important therefor in the whole scheme of the advance of medical science. This is meaningful primary graduate medical education for the intern, no less so than in a celebrated medical Mecca. Here in the community hospital, no less than within the walls of the medical center, will the young doctor learn a quantity of medical science, and develop a quality of applying that knowledge; and here too in the community hospital, will all the same variables be operating. It is probably synonymous with the practice of medicine in the United States, and if this is true, it deserves profound respect.

A steady source of interns for community hospital internships should be assured by the National Intern Matching Program, the Intern Review Committee, and the Council on Medical Education and Hospitals. Medical school faculties should exert real influence to encourage graduates to accept appointments in smaller approved community hospitals. Relaxation of some requirements by State Boards of Medical Examiners should aid in attracting more foreign graduates to fill many voids.

Graduate education in the small non-affiliated hospital may not be vintage wine in costly stem-ware, but it can be a vibrant dynamic important experience made solidly significant to the intern by devoted well-trained staff physicians, and soundly basic to his future education or practice. Wherever this is found to be true, its continuance should be nourished by the leaders of American medicine.

A. C. WYMAN, M.D.

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1. Graduate Medical Education in the United States. J.A.M.A. 168: 5, 521-528, Oct. 4, 1958.

The Relationship of Dermatology to Other Fields of Medicine

G. A. GRANT PETERKIN, M.B.E. M.B., Ch.B., F.R.C.P.Ed.
Edinburgh, Scotland

SINCE EARLY CHILDHOOD the name Virginia has spelled for me high romance in the best sense of this misused word. It stood for all the manly virtues—a fine code of honour; courage in adversity; endurance; high intellectual abilities; and all the qualities of a true gentleman.

Less than a year ago, the name of Stuart McGuire, though I knew it, had little significance for me, but now thanks to Richmond friends such as Dr. Campbell Manson, I know something of this remarkable man, and realize that he possessed all the finest characteristics of a Virginian. The son of a famous doctor, who rode with and loved Stonewall Jackson, and who attended him on his death-bed, he must have found it far from easy to follow in his father's footsteps.

Yet Stuart McGuire touched nothing that he did not adorn. Physical handicaps that would have daunted a lesser man did not prevent him from leading a life full of action as well as thought. To you who knew him there is no need to recapitulate his brilliant career; to me, his name stands for all that was, and still is, Virginia; and I feel most unworthy to be chosen to commemorate the memory of such a man and I esteem it a great honour. "Let us now praise famous men, men of little showing; For their deeds continueth, Greater than their knowing".

In "War and Peace", Leo Tolstoy (1933) stated "No disease suffered by a live man can be known, for every living person has his own peculiarities and always has his own peculiar, personal, novel, complicated disease, unknown to medicine—not a disease of the lungs, liver, skin, heart, nerves, and so on mentioned in medical books, but a disease consisting of one of the innumerable combinations of the maladies of those organs". This holds good just as much in dermatology as in other branches of medicine; just as "no man is an island entire of himself", so is the skin merely one organ in the integration of the body, for it is essential that the dermatologist should be the antithesis of the venereologist described by Sir Robert Hutchison as "The sort of man who looked at life through a syphilitic haze and who would have prescribed blue pills for the Vestal Virgins". Even what are apparently the simplest of dermatoses may have a complex background; Impetigo flourishes on one person's skin and not another; Warts, due to a virus infection, may disappear at the touch of the charmer, whether lay or medical.

It is often forgotten that the skin is the largest organ of the body; it has many more functions to fulfill than other organs, such as the heart, and is exposed to the buffetings of nature and the abuses of civilization in ways unknown to the rest of the human frame. One of the fascinations of dermatology is the frequent connection of skin diseases with the other branches of medicine and surgery; how often one has to turn for help to colleagues in other spheres and how often these colleagues require a similar service. I have noted with amusement how the young doctor or nurse shudders at the idea of "doing skins" and how frequently this same person after a short time becomes enthralled by the subject. I suppose all, who like myself live in Edinburgh, ought to be disciples of Dr. Joseph Bell, the prototype of Sherlock Holmes, and there is no doubt that not only the dermatologist, but every medical man, ought to cultivate his powers of observation, and should encourage students to do likewise. Even outside hospital the dermatologist tends to notice skin changes in the folk around him—the falsely rubicund cheeks of one who has Ichthyosis or Rosacea; the pale, drawn facies of the person with Alopecia Areata or asthma-eczema; the fissuring of the flexures which may indicate a vitamin deficiency or a tendency to seborrhoeic dermatitis; and the anxious, furrowed brow and

PETERKIN, G. A. GRANT, *Physician-in-charge, Skin Department, Royal Infirmary, Edinburgh, Scotland.*

The Thirtieth Annual Stuart McGuire Lecture, delivered on 12th November, 1958, at the Baruch Egyptian Building, Medical College of Virginia, Richmond, Virginia.

Agag trend of the sufferer from pruritis ani.

The colour of the skin may give us clues—the yellow hue of jaundice, carotinaemia or quinacrine; or the brown due to such causes of haemochromatosis, Gaucher's disease or to intoxication to drugs such as arsenic or silver. The presence of angiomata may indicate the possibility of Hereditary Telangiectasis, or, if they are pulsatile, the likelihood of cirrhosis of the liver, just as "liver palms" may be suggestive of other types of hepatic disorders. Tattoo-marks may be the obvious sign of a trade such as coal-mining or the effect of a Schu-mine in warfare; or, if they are voluntary, may indicate the countries served in and may thus be a clue to a disease prevalent there. The old adage still holds good—"if you see a patient with tattoo-marks and waxed moustaches, always take a Wassermann". Some occupations may leave significant traces, usually less obvious than the "cauliflower ear" of the boxer, such as the string marks of a guitar player, the "shagreen-skin" of the old shale oil worker, or the "knuckle-pads" of the leather-worker. Francesco Ronchese of New York is a notable authority on such stigmata, and his erudite papers make fascinating reading.

The dermatologist can, on occasions, be of assistance to the dentist, in being able to differentiate lichen planus from leukoplakia or contact dermatitis due to dentures, or recurrent herpes from aphthous ulcers, pemphigus or a yeast infection. Pigmentation of the buccal mucous membrane may be due to a true melanoma, to pigmentation from drugs such as arsenic, bismuth, or quinine, to pellagra or to general diseases such as Addison's or acanthosis nigricans, or Peutz-Jegher syndrome, associated with intestinal polyposis, and perhaps carcinoma.

To obtain some idea of how frequently the rest of medicine impinges on dermatology, I selected at random a consecutive series of over 2,000 case records, and found that in 24% of these there was some direct reference to some other branch of medicine.

This table shows the details:—

INCIDENCE OF DERMATOSIS RELATED TO OTHER FIELDS OF MEDICINE

	Male	*Female*	*Total*	*Percentage*
Number of patients	1062	1039	2101	100%
Number of patients with diseases related to other branches	147	358	505	24%

DISTRIBUTION OF DERMATOSES RELATED TO OTHER FIELDS OF MEDICINE

	Male	*Female*	*Total*
Medicine	69	146	215
Surgery	29	56	85
Plastic surgery	2	7	9
Gynaecology & Obstetrics	—	67	67
Ophthalmology	3	11	14
Ear, Nose and Throat	14	8	22
Pediatrics	9	21	30
Psychiatry	10	17	27
Tuberculosis	7	15	22
Venereal Disease	2	7	9
Fevers	1	1	2
Tropical Diseases	1	1	2
	147	358	505

One might think that the lordly surgeons would have little truck with "skin men", but not infrequently one has to enlist the help of the other. The surgeon may have occasion to refer to the dermatologist patients with diseases such as Orf (Contagious Pustular Dermatitis of Sheep), Contact Dermatitis following burns or other injuries, perionychia due to yeast infections, warts, and varicose ulcers or eczema, which the dermatologist is equally ready to pass on to him for obvious reasons. The skin specialist sends to the surgeon many minor conditions —cysts, such as sebaceous, inclusion synovial or mucous; foreign-body reactions which clinically and histologically may resemble sarcoidosis; Subungual Exostosis, angiomata or naevi, as for example granuloma pyogenicum, glomus tumour, cavernous angiomata, cellular naevi and fibromata, while he entrusts to the surgeon the unpleasant task of removing nails infected with ringworm. Malignant Melanomata, Sclerosing Angiomata, cutaneous Carcinomata, or even von Recklinghausen's disease, are among other surgical indications.

The plastic surgeon is often called in to treat malignant disease, angiomata, naevi, and rarer diseases such as acne conglobata, or to help the victim of a long-standing lupus vulgaris. For unusual diseases such as Adenoma Sebaceum associated with Tuberous Sclerosus, or Cavernous Haemangiomata of the Sturge-Weber type with "naevoid amentia" the patient may be referred to the neurological surgeon, or for conditions such as Raynaud's syndrome, or Bazin's disease an expert on vascular surgery may be needed. A brisk but minor trade goes on between the orthopaedic surgeon and the dermatologist with such things as corns and warts.

EAR, NOSE AND THROAT

Often the dermatologist tends to be a thorn in the side of the busy oto-rhino-laryngologist, who is

frequently asked to decide whether or not a hidden focus of sepsis is present in the sinuses or the tonsils, but he also can be helped in many of the cases of what he call otitis externa and what the skin specialist calls seborrhoeic dermatitis or flexural infective eczema. People with this type of skin may also tend to develop that recurrent streptococcal lymphangitis called "Erysipelatoid", affecting the ears or nose like a mild erysipelas, which is more in the dermatologist's province. Lesions of the buccal mucous membrane may also necessitate the opinion of a dermatologist.

OPHTHALMOLOGY

All eye specialists recognize that there are many close links in their specialty with dermatology, partly because the eyelids are in the province of both. Of the many diseases which may affect the lids are new growths, both malignant and benign. Basal and squamous cell carcinomata are often found on the eyelids and occasionally one sees malignant melanomata. Of the simple tumours, perhaps the commonest are the angiomata, either "spider naevi", cavernous lesions, "port-wine stains", and warts, the last of which may affect the lids, either as filiform growths or as plane warts. Cutaneous tags and seborrhoeic warts are also not uncommon. Pseudoxanthoma Elasticum is associated with angioid streaks of the retina.

Xanthelasma, which will be mentioned later, characteristically occurs on the eyelids and the yellow plaques are easily recognized. The eyelids are a favourite site for molluscum contagiosum and milium cysts. Many different diseases can produce an oedematous swelling of the eyelids, e.g., contact dermatitis, giant urticaria, streptococcal infection, dermatomyositis, and it is usually the dermatologist's job to unravel the diagnosis.

Lupus vulgaris may at times involve the eyelids, sometimes in conjunction with a strumous keratitis, and lupus disseminatus miliaris characteristically affects the lower eyelids. Lupus erythematosus may not only affect the skin of the lid, but also the conjunctivae, producing a typical scarring, while the first sign of sarcoidosis may be "Heerfordt's syndrome", with irido-cyclitis, parotitis, etc.

Adenoma sebaceum or tuberous sclerosus, already referred to, may show mulberry-like lesions on ophthalmoscopical examination. Reiter's disease is often first recognized by the dermatologist, who is aided in differentiation by the presence of urethritis, arthritis and conjunctivitis, while in the triple symptom complex of Behçet there may not only be ulceration of the mouth and genitalia but also conjunctivitis, irido-cyclitis, etc. Stevens-Johnson's disease or Dermato-stomatitis is usually accompanied by a severe conjunctivitis and sometimes bullae occur on the cornea and produce blindness.

Blepharitis is frequently present in those with a tendency to Seborrhoeic Dermatitis and ophthalmologists recognize that treatment of the skin disease is often essential to heal the eye condition, just as a Keratitis or corneal ulcer wll often get better following treatment of a Rosacea. Juvenile Cataract and Keratoconus may be associated with atopic eczema, while Ocular Pemphigus has a particular interest for the dermatologist though it is not a fatal disease like Pemphigus Vulgaris.

GYNAECOLOGY AND OBSTETRICS

Most dermatologists are fascinated by the high percentage of female patients in whom endocrine factors appear to play an important part. One need only instance Acne Vulgaris and Rosacea in which there is so often an exacerbation in the pre-menstrual phase; or the naevoid structures affecting the neck and called Cutaneous Tags which sometimes appear at puberty but more often about the time of the menopause. Circumscribed Neurodermatitis and Disseminated Neurodermatitis are apt to begin then also. Fox-Fordyce Disease, a chronic intensely itchy disorder of the apocrine glands, may be a form of neurodermatitis and seems to be associated with ovarian dysfunction, while Keratodermia Climactericum is a thickening and fissuring of the skin of the palms and soles which appears after the menopause and responds to high dosage with oestrin preparations. One would expect alopecia of the male type to respond also to oestrin but this not so.

Pruritus ani et vulvae is probably more often due to a dermatological cause than a gynaecological one but it would take the whole evening to discuss this trying complaint, with its many different causes such as Lichen Sclerosus et Atrophicus and monilial vulvo-vaginitis.

In pregnancy may occur a skin disease—Herpes Gestationi—the cause of which is undoubtedly endocrine but so far unknown. Many other dermatoses may be aggravated or ameliorated by pregnancy, but this condition appears to be directly due to it.

INTERNAL MEDICINE

Naturally it is with internal medicine that the closest links are found, and in not a few general

diseases it is the dermatologist who has first drawn attention to them and who has explained the aetiology.

However, the essential cause of the asthma-eczema syndrome is still unknown to medicine and no doubt the discovery of the basic cause of one will lead to elucidation of the whole condition, which may eventually be attributed to some deficiency or alteration in the molecular structure of desoxyribonucleic acid.

Deficiency diseases often have dermatological aspects. In the old days the girl with Chlorosis was a common sight, and now and again the skin specialist is able to "spot" a hypochronic or a pernicious anaemia. The effects of deficiency of Vitamin B complex are too well known to require comment, but it is worth mentioning that one still occasionally sees mild cases of pellagra and even lack of Vitamin C in the form of scurvy. At one time, a type of dryness of the skin with follicular hyperkeratosis was thought to be due to shortage of Vitamin A, but Ramalingaswami and Sinclair (1953) have demonstrated that the symptoms are more probably due to lack of certain higher fatty acids in the diet. The symptoms of malabsorption syndrome as in sprue can be caused by certain drugs such as the heavy metals and mepacrine, and dermatologists are well aware that eruptions due to drugs can mimic any disease whatsoever.

Purpura, for instance, is frequently caused by drugs, and there are many entirely dermatological causes for this type of rash. In fact, a full haematological examination frequently fails to reveal a cause for a purpuric rash.

Urticaria falls within the province of the physician just as much as in that of the skin specialist, and can be the first presenting symptom of many diseases, such as reticulosis, dermatomyositis, malaria, or infective hepatitis. Likewise, the development of a Herpes Zoster in an adult should make one consider the possibility of malaria, hidden malignant disease, or some condition treated with deep x-ray therapy. In Urticaria Pigmentosa, the lesions are packed with mast cells which contain heparin monosulphate. These mast cells in the skin may signify a mastocytosis involving internal organs and producing bone changes.

Endocrine factors play such an important part in so many dermatoses that it is not possible to mention more than a few diseases such as Circumscribed Myxoedema situated usually over the shins and following thyroidectomy.

George J. Nathan once described the plays of J. M. Barrie as the "triumph of sugar over diabetes", and when glycosuria occurs in the human the skin is prone to develop infections, not only septic ones, but also with the yeast Candida Albicans, which usually involves flexural areas, as in the form of vulvo-vaginitis or perionychia, but occasionally as a generalized moniliasis. As well as yeast infections, Necrobiosis Lipoidica Diabeticorum may be the first clinical evidence of the disease, and usually occurs as reddish-brown plaques on the shins, the dorsa of the hands or on the forearms. Xanthomatosis may be due to hyperlipaemia and therefore found in diabetes, chronic pancreatitis or lipoid nephrosis, or may be of the hyper-cholesteraemic kind such as Xanthelasma palpebrarum, with which there is so often a family history of cardiovascular disease. The first symptoms of Amyloidosis may be itchy nodular patches or involvement of the tongue, while Porphyria may first present itself as a cutaneous disease.

Ulcers of the legs are often wrongly termed varicose when they are really trophic, due to vascular disease, or caused by rarer conditions such as ulcerative colitis, Felty's syndrome, sickle cell anaemia or even diphtheria. Nodular eruptions of the legs often belong to the province of the physician, as in the differential diagnosis one must include Polyarteritis Nodosa, Thromboangiitis Obliterans, Erythema Nodosum, and Bazin's disease, due to tuberculous infection.

Tuberculosis, like syphilis and drug rashes, must always be kept in mind by the dermatologist in differential diagnosis, for these can simulate closely many other types of dermatosis. It was a dermatologist who first demonstrated that Sarcoidosis was a systemic disease, though Jonathan Hutchison first described the skin lesions as "Mortimer's Malady" in 1898. As well as the changes in the liver, lymph nodes, etc., the radiological findings in the lungs and the long bones are absolutely characteristic. Long before internists were aware of it, the dermatologist Kaposi, as long ago as 1896, showed that Disseminated Lupus Erythematosus was a constitutional disorder. Within the past ten years, fresh attention has been focused on this disorder, with the discovery of the L.E. cell by Hargraves and his colleagues (1948); the control of its symptoms by cortico-steroids; and the efficacy of modern antimalarial drugs such as chloroquin, camoquin and plaquenil. Lupus Erythematosus and Dermatomyositis may simulate each other closely, so that close

observation and thorough investigation of such cases may be required.

To survey the associations of dermatology with pediatrics, venereal disease, specific fevers or tropical conditions, would encroach too much on the time at our disposal, while the links between psychiatry and dermatology are so strong that one sometimes feels that there are two schools of dermatology—those who believe that almost all skin troubles are entirely due to psychosomatic problems and those who insist that a skin disease must be due to organic disease. Of course, both schools of thought are wrong. For over fifty years it has been recognized that Scleroderma may be associated with visceral lesions, but it is only since 1945 that much attention has been drawn to such features as the sclerodermatous changes in the oesophagus, heart and lungs.

Though Poikilodermia Atrophicans Vasculare may be found in association with dermatomyositis or scleroderma, the appearance of this curious reticulation should make one suspect the possibility of a serious general disorder such as Hodgkin's disease or Leukaemia. Similarly, the diagnosis of Acanthosis Nigricans, with its dusky warty hyperkeratosis makes it imperative to institute a hunt for internal malignancy, particularly carcinoma of the stomach.

Only too often, a dermatosis is the first sign of an internal malignant disease which may show itself in many curious ways. Sometimes it may be in the form of metastases of a neoplasm with secondary tumours on the skin, or even more insidiously, as a rash indistinguishable from a chronic eczema, like the so-called "premycotic" eruption. Such a rash may be present for months or years before there is any other evidence of a reticulosis even in the bone marrow.

Lastly, there is a group of skin diseases which may be associated with arthritis, not only the well-known Psoriasis—Arthropathica but also Reiter's disease and Acrodermatitis Perstans. Such diseases are really problems which should be solved by the combined efforts of physicians and dermatologists, like many of the diseases to which I have referred so briefly, for I have vainly attempted to cover a vast subject in a brief period.

REFERENCES

Hargraves, M. M., Richmond, H. and Morton, R.: Proc. Mayo Clinic. 23:25, 1948.

Ramalingaswami, V. and Sinclair, H. M.: Brit. J. Derm. 65:1, 1953.

Tolstoy, L., tran. by L. & A. Maude: "War and Peace" Oxf. Univ. Press p. 324, 1933.

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New Rauwolfia Preparation

A new derivative of rauwolfia, the old Indian snake root remedy, has been found to lower high blood pressure without producing the many adverse side effects caused by other rauwolfia preparations. The new drug, called syrosingopine (Singoserp), was discussed in the April 4th Journal of the American Medical Association by four Galveston, Texas, physicians.

They gave the drug to 77 patients with essential hypertension (high blood pressure of unknown cause) at the University of Texas Medical Branch.

The chief advantage of syrosingopine over other rauwolfia derivatives, such as reserpine, is the relative infrequency with which it produces disturbing side effects. These include drowsiness, terrifying nightmares, depression, nasal congestion, and gastrointestinal disturbances. Fourteen of the patients were markedly intolerant to other rauwolfia preparations, but only four of these showed any signs of intolerance to syrosingopine and these were relatively minor.

The doctors—George R. Herrmann, Elmer B. Vogelpohl, Milton R. Hejtmancik and James C. Wright—recommended the use of syrosingopine for those patients with essential hypertension who are unable to take the other rauwolfia preparations.

The Radiologic Status of the Esophagogastric Segment

A Critical Review and Some Personal Observations

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I. Introduction
II. Definitions: Esophagogastric junction, Cardia, Cardial Button, Distal Esophagogastric Closing Mechanism (DECM)
III. Phrenic Ampulla
IV. Vestibule, and its several types of radiologic behavior
V. Cardial region, Cardial Button, Cardial Valve
VI. Phrenoesophageal Membrane
VII. Diaphragm
VIII. Recapitulation of the constituents of the DECM
IX. Causes of Failure of the DECM
X. Effects of Failure of DECM
XI. Hiatal Hernia, sliding, paraesophageal, and mixed
XII. Rational radiologic classification of hiatal hernias

I. INTRODUCTION

No other part of the gastrointestinal tract has occasioned more disagreement about its anatomy, physiology, and radio-pathology, than the esophagogastric segment. From 1930 to 1946, some thousand papers appeared on this subject.[65] The flood tide was yet to come; knowledge had to keep pace with the progress of thoracic surgery.

Confusion about the esophagogastric segment stems from several factors. It, like "transpyloric prolapse" of the antral mucosa, is susceptible to accurate study only in the intact patient. Anesthesia, laparotomy, passage of tubes, study of surgical or dead-house material, all are obviously incompatible with the natural state. Only the radiologic method approaches the physiologic. The authority of the esophagoscope, with its "dogma of infallability", has dampened the interest of many radiologists in this segment[37], which often merits merely a passing glance in the upright patient. Such authority should be tempered by realization of the esophagoscope's limitations: blind spots, stimulation of an unnatural bolus, displacement of mucosa as the instrument is introduced and withdrawn, requirements of anesthesia, etc., even though it is at once admitted that it alone can solve many of the problems in this segment. As with the stomach, the radiologic and endoscopic methods should be regarded not as competitive, but as complementary.

The purpose of this paper is to present an eclectic conception of this segment, a working scheme consistent with most of the data. Though mindful of the contributions of Åkerlund, Allison, Harrington, Barrett, Johnstone, Lerche, and many others, I have attempted as much as possible to avoid the pitfall of *"Ipse dixit"*.

II. DEFINITIONS

Esophagogastric *segment* is preferable to *junction* because the latter indicates that zig-zig line (ora serrata) marking the abrupt transition from squamous epithelium (esophagus) to columnar (gastric). A longitudinal section through the line microscopically will show no other difference (4). *Segment*, as here understood, is more general, including surrounding organs such as diaphragm, phrenoesophageal ligament, etc. Even such a common term as *cardia* is not specific.[16,23,28,45] The most logical meaning is that narrow segment of stomach characterized by cardiac glands, which is *not* a radiologic determination. The *cardial button* is a radiologic concept, and will be described later. *Distal Esophagogastric Closing Mechanism* (DECM) is preferable to those names emphasizing, or confined to, one part or physiologic activity, such as esophageal constrictor, sphincter, valve, hiatal valve mechanism, etc. The wisdom of the expression DECM will be developed later. *Cardial region* is non-specific, in-

cluding the cardial button, cardial incisura (or angle), and cardial orifice.

III. PHRENIC AMPULLA

The appearance and behavior of the phrenic ampulla need not be described since they are well known to all radioscopists. Its make-up, however, has occasioned disagreement. It has been claimed that its distal border is formed by the inferior esophageal sphincter[19,20,52], and even the constrictor cardiae.[62,63] Neither of these elements can be accepted as the major component of the base of the ampulla in view of its intimate fluoroscopically determined relation with diaphragmatic (crural) contraction. The base of the ampulla is usually asymmetric. I have found its left border is deeper than, as deep as, less deep than, its opposite side in the frequency relation of 10 to 1 to 1. This is in keeping with the more powerful and considerably thicker left muscular margin of the hiatus, and the postero-medio-caudal pull of the hiatal sling.

It is possible that those who have minimized the role of the diaphragm in forming the base of the ampulla have mistaken the anatomy of the diaphragm. In my material, the base of the ampulla *appeared* to be at, above, or below, the diaphragm in the frequency relation of 2 to 1 to 1. This will be discussed later.

The characteristic fluoroscopic behavior of the phrenic ampulla should differentiate it from hiatal hernia and esophageal reflux. Furthermore, study of radiographs of the ampulla may disclose a soft-tissue companion shadow (Fig. 1) along its right border border merging into the diaphragmatic shadow.[18] This was noted in about 15% of my material. This shadow is taken to represent the right esophageal wall, its covering mediastinal pleura, the visceral pleura, and any intervening fluid. The presence of this normal shadow, in my opinion, excludes herniation. Its changed appearance in presence of hernia will be discussed later.

IV. VESTIBULE

The distal two or three centimeters of the esophagus, comprising an anatomic, physiologic, radiologic and pharmacologic entity[9,12,30,41,49], has been assigned many names, especially cardiac antrum and esophagogastric vestibule. The latter is to be preferred because it is more an anteroom (*vestibulum*) than a cave (*antrum*). While a characteristic musculature both at its proximal end (inferior esophageal sphincter), within the vestibule itself, and its

Fig. 1. Companion shadow on right side of lower esophagus. Normal. Excludes hernia.

distal end (constrictor cardiae) has been described[41], there is by no means general agreement[1,35,44] except possibly for diffuse thickening of the muscular layer in some specimens. It is pointless to enter this discussion.

However, the vestibule may exhibit several types of *radiologic* behavior:

1. Immediately as the barium swallow is completed, the entire vestibule is contracted, and the esophagus just above the vestibule shows minimal distention (Fig. 2). The proximal vestibular junc-

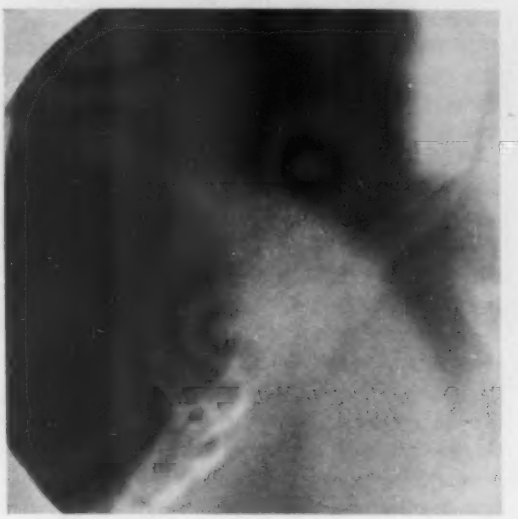

Fig. 2. Tonic state of entire vestibule. Normal.

tion resembles a funnel opening proximally. The distal end of the contracted vestibule terminates either abruptly into the stomach, or occasionally it too may resemble a funnel, but opening distally into the stomach (Fig. 3). That this sphincteric contraction of most or the entire vestibule is not related to the diaphragm is demonstrated by its relative independence of respiratory excursion. Transducer pressure studies show that the pressure differential between esophagus and stomach occurs over a much shorter segment than here portrayed. Therefore, the tonic force of this much larger segment must be minimal.[17]

Fig. 3. Funnel-like opening of distal ends of vestibule. Probably normal, although early "decompensation" of cardial closing elements cannot be excluded.

2. The vestibule may be dilated, the esophagus above being tonic, and the vestibule separated from the stomach by a mechanism to be described later. This picture (Fig. 4) is less common than the first, and is more fleeting, the vestibule presently emptying its contents into the stomach. This is often called hiatal hernia or hiatal insufficiency, but is neither. The vestibule and the esophagus above appear to have an inverse relationship: when one is distended, the other is contracted.

3. The best example of persistent vestibular contraction is, of course, achalasia (cardiospasm). Both these terms are unsuitable because they focus attention on the local aspects of the disease. Pressure studies indicate that most of the esophagus is abnormal[9,30]: there is a failure of initiation and propagation of a normal peristaltic wave, which is the "key that opens the vestibule". In a way not clear, thickening of the vestibular muscle must be a response to this autonomic disorder. A catheter can be passed through the narrowed segment with little difficulty. The level of fluid within the distended esophagus is a measure of the pressure needed to open the segment. Relief with preservation of the DECM can at times be obtained by the Heller operation in which the vestibular muscle is cut longitudinally but the cardial region is preserved intact.[4]

Fig. 4. Vestibule distended with air and barium. Esophagus above is contracted. Normal.

4. Ampullary grooves: One often sees a shallow symmetric groove in the phrenic ampulla near its apex (Fig. 5). It is of uncertain origin. Why it is not seen in every patient cannot be answered. Possibly it represents the beginning phase of the lower esophageal contraction ring.

5. Lower esophageal contraction ring: This is a smooth, narrow symmetric encroachment upon the lumen of the lower esophagus (Fig. 6), best elicited during full inspiration. It is not an uncommon finding in the routine examination with the patient horizontal, but may also be visualized with the patient standing.[19] It is usually without symptoms, but an occasional patient will have dysphagia, even to such a degree that surgery will be needed for relief. The presence or absence of symptoms has been correlated with the diameter of the ring.[57] Some interpret the ring as a passive structure[57], fixed in diameter over the years, and others look upon it as an active structure moving along the esophagus and contracting actively upon the passing bolus.[29] Others interpret it

Fig. 5. A. Typical ampullary groove. B. Few seconds after "A". It is tempting to equate the constriction indicated by arrow with the ampullary groove in "A", and the vestibular sphincter, the barium below being in the vestibule.

as a normal "fold of mucosa pinched by two opposing propulsions."[37] Still others feel that the ring may be a reaction to superficial ulceration.[21]

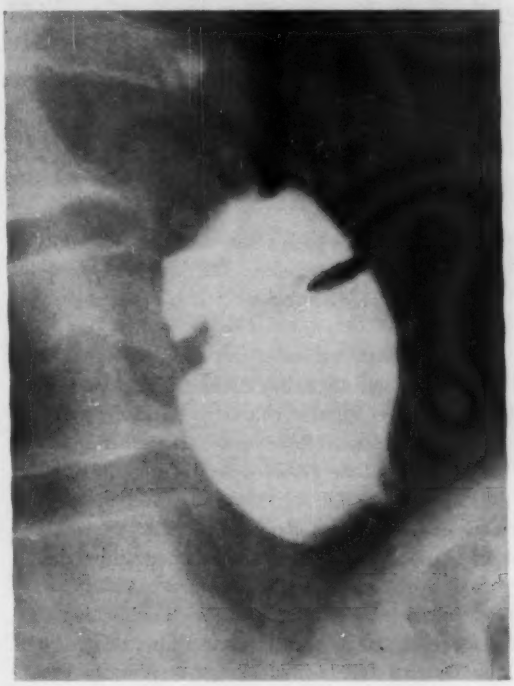

Fig. 6. Constriction ring. No symptoms.

Endoscopic findings are either normal or inconstant. One ring at surgical operation was associated with a hiatal hernia[57], and another ring was found to be hypertrophied muscle.[29]

The only reported autopsy of a patient with a symptomatic ring disclosed that it was formed by a simple mucosal fold covered above by squamous mucosa and below by gastric mucosa, with a fine ring of muscularis mucosae just deep to its inner free border (New England J. Med. 259:1-8, 1958).

Two facts of interest emerge from study of these reports: first, the ring is commoner in the older age groups, and second, there is a higher incidence of esophageal diverticula associated with the ring than explicable on the basis of chance. The first observation is in keeping with senescent degenerative change within the nervous system, and the second suggests that these rings are not completely innocuous (other than dysphagia usually controlled by simple means) and that there must be at times an elevated intraesophageal tension. Note also that hypertrophy of the inferior esophageal sphincter was found in a series of pulsion esophageal diverticula[38], and it was suggested that the diverticula represented herniations of the mucosa through weak spots in the muscle layer incident to elevated intraesophageal pressure occasioned by the thickened sphincter. Autonomic imbalance was considered the basis.

Because all gradations exist between the typical ampullary groove and the typical contraction ring (Fig. 1), it is a logical tentative assumption to identify both as different manifestations of the same structure. The strictness of the criteria used in identifying these rings will determine the relative incidence of rings and ampullary grooves in a given material. If this assumption is correct, then the contraction ring is merely a prominent, thickened ampullary groove. If it is true, as has been suggested, that there is often a hiatal hernia below, the ring may be due simply to work hypertrophy, this structure having to do more than its usual share in preventing gastroesophageal reflux.

6. A constriction may be noted in the lower esophagus in those hiatal hernias with the cardial region above the diaphragm. This ring is usually coarser and less symmetric than the contraction ring discussed above (Fig. 7), and may be regarded as the vestibular sphincter, but further hypertrophied through additional demands put upon it to prevent reflux.

7. An apprehensive patient may show a tendency to obstruction at the lower end of the esophagus, due to tonic contraction of the entire vestibule. It opens readily spontaneously or following swallowing. There is no dysphagia. This is commonly, and incorrectly, reported as cardiospasm. A similar behavior may be noted in old people, in whom the esophagus may be somewhat dilated, but with no dysphagia. Both these states may be related to autonomic imbalance with sympathetic preponderance, in the former group due to the emotional state and in the latter, to the involution of senescence.

How to piece all these varieties of muscle activity into a unified whole? They can be divided into three groups:

A. Normal: This includes numbers 1, 2, 4, and 7. Number 1 must represent total vestibular contraction. Number 2 must represent the relaxation of most of the vestibule and contraction of the esophagus above.

B. Borderline: Number 5.

C. Abnormal: Numbers 3 and 6.

What is the nature of the mucosa within the vestibule? The answer comes from esophagoscopy. A variable segment of the vestibule is covered with gastric mucosa.[48] It may extend much higher on one side that on the other, and there is considerable freedom of glide upon the submucosa. The actual level of the mucosal junction between esophagus and stomach is a function of the habitus, of the person's

Fig. 7. Sliding hernia, but cardial incisura above diaphragm. No reflux. Constriction by opposing arrows taken to be the hypertrophied vestibular sphincter. Note how the normally narrow companion shadow of esophagus above merges into the much thicker companion shadow of the herniated stomach. This thickening must be caused by the thicker stomach wall (as compared with the esophagus), and the retracted peritoneal reflexions of the hernia.

state of gastric distention and probably other factors as well. Clips attached to the junction prove the unreliability of distinguishing it by radiologic pattern.

What is that portion of the lower vestibule lined with gastric mucosa to be called? It is not esophagus in spite of its tubular character because by definition esophagus must have squamous epithelium. The difficulties will be resolved by calling the tubular structure gullet and only that part covered by squamous epithelium, esophagus.[4]

The concept of "abdominal esophagus" has led to much dispute, even to denial of such a structure.[32] The attachment of the esophagus to the hiatus by the phrenoesophageal membrane allows relative motion between the two with each respiratory excursion, and longitudinal motion initiated within the

alimentary canal such as upward retraction of the esophagus by virtue of its cricoid attachment. It is a certainty, therefore, that the relation between the vestibule and the hiatal tunnel is variable, and under certain conditions some of the vestibule may reach below the tunnel. It is believed that the concept of the abdominal esophagus is confusing and useless, and should be discarded. The vestibule is the last station in the gullet.

V. CARDIAL REGION

A muscle fiber tract, the constrictor cardiae, has been described[41], but this has not been universally accepted. Transducer pressure studies indicate that the mechanism of the cardial region behaves much more like a valve than a sphincter[17], in that the antegrade pressure required for opening from the esophageal side is much less than from the gastric side. Relatively high intragastric pressures can be withstood. Further, these studies indicate that the occluding mechanism must be just a few millimeters in length. The stomach and lower esophagus mobilized at the operating table provide further but indirect evidence of a cardial valve rather than a simple sphincter: air introduced into the stomach will not enter the esophagus even with considerable manipulation of the media, and even with production of a ninety degree angle between the esophagus and the stomach, but air readily escapes into the esophagus with manipulation of the cardial region.[17] Studies on cadavers show that the greater the angle of His (the angle between the esophagus and fundus), the less the pressure required to gain entry into the esophagus.[44] Such cadaver studies, while indicating the possibility of existence of such a factor, are to be regarded with circumspection because they assume the occluding process to be inert and non-vital, and fail to consider the autoplastic properties of gastrointestinal mucosa (Forssell). It will be noted that marked widening of the angle of His as found with pneumoperitoneum does not result in loss of the cardial-closing mechanism.[33] It is likely, therefore, that mere intragastric tension producing a narrow angle of His is not the important factor in this mechanism, as has been claimed.[15]

A study of the filling defect caused by the esophagus entering the cardial region (cardial button) and it differentiation from tumor disclosed a pattern resembling a crescent (or circle) and star, thought to represent a "motor phenomenon" in the terminal esophagus seen axially.[27] A more satisfying explanation was given some years later by Jutras et al[37], whose beautifully illustrated paper has received scant attention. They called this sign the "burnous", which is a one-piece cloak-like garment and hood, worn by Arabs and Moors. The crescent referred to above is the hood and the esophagogastric folds streaming beneath and proceeding distally, the body of the cloak (Fig. 8). Two dominant folds can often

Fig. 8. Striking burnous, or crescent, sign, with the gastric folds emerging from the center of the hood and streaming downward. This patient had repair for a sliding hernia some years ago, which may possibly be a factor in the prominence of the sign.

be seen in the lower esophagus streaming beneath the hood and continuous with the two major folds along the lesser curvature, the groove between being the true lesser curvature. The impossibility of differentiating esophageal from gastric mucosa by radiologic means is evident from Fig. 9. The fundamental difference between esophagus and stomach lies in the epithelium of the mucosa and not in the gross morphology of its folds. Jutras's reproductions which must be studied, were obtained by simple barium swallows using very heavy paste, the aerophagia needed for swallowing given splendid contrast. While there were many variations in the burnous pattern, the underlying theme was present in all. The hood, or crescent, was the main point of interest, and the authors believe that this represents a mucosal fold, which, with its autoplastic properties, represents the actual hiatal valve. Such a valve was described by Gubaroff in the last century.[42] A well developed hiatal valve is said to be present in some lower forms.

Fig. 9. Note continuity of the esophageal and gastric folds through the cardial button.

Some gross specimens in Jutras's paper record a prominence convincingly. However, I have studied several fixed specimens and at least in some a palpable ridge was made by the thick left margin of the hiatus. In an occasional one there was no question of a prominent fold of mucosa overhanging the orifice (Fig. 10). Nevertheless, even in the face of negative or ambiguous deadhouse anatomy, the findings of living anatomy and function, *given undisturbed only by the radiological method,* cannot be neglected. While only 47 of 1800 gastrointestinal examinations[27] showed a well developed crescent sign, practically every stomach in the right anterior oblique position that provides suitable air contrast will show some variation of it, although perspicacity may be needed to detect the underlying theme in some. Commonly, only a straight barium line perpendicular to the long axis of the esophagus, representing barium in the sulcus on the cephalic side of the mucosal fold, is seen. At times, the cardial button may be visualized by simple air-contrast without the aid of barium (Fig. 11).

Fig. 10. Note prominent crescentic fold hanging down into the cardial orifice. Lower esophagus and upper stomach ligated, segment distended and fixed before opening.

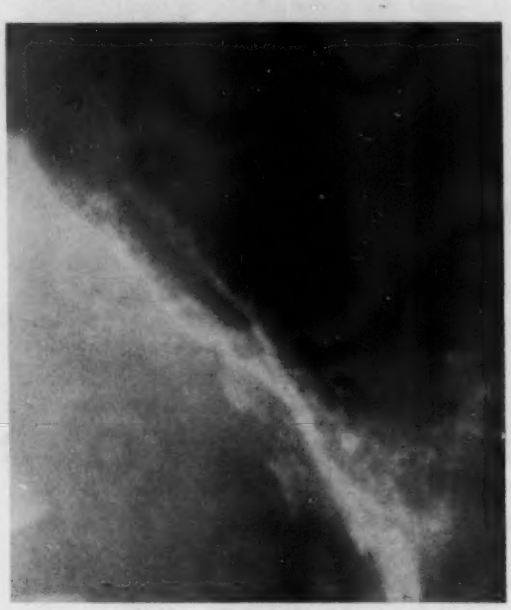

Fig. 11. Remarkable demonstration of cardial button without the aid of barium contrast. Note the crescent outlined by air in its cephalic groove, the trace of barium (opposing arrows) in the vestibule, proceeding through the cap and emerging beneath it.

In summary, there is convincing physiological, and good anatomic and radiologic evidence of a cardial valvular mechanism.[3,17,37] The muscle tract said to form a cardial sphincter (but no real radiologic evidence for this) may be regarded as the agent for approximating the circumference of the cardial region so that the mucosal valve may operate. The cardial constrictor tract, if this is true, may be likened to the aortic ring. Any factors producing

dilatation of the ring such as syphilis and hypertension result in insufficiency of the aortic valves in spite of their intactness. The gastric submucosal muscular sling[4] sitting like an inverted "U" astride the angle of His tends to maintain this cardial approximation as well. The hiatal sling possibly also assists. Esophagogastric secretion may help make the valve air- and water-tight. A narrow angle of His may be regarded merely a sign that the cardial region is favorably disposed for competent operation of the mucosal valve, but has no direct part in it. This concept is consistent with those cases of cardial insufficiency ascribed to high-entry of the esophagus into the stomach which are helped by suturing the fundus to the left border of the lower esophagus; conditions are improved for competent operation of the mucosal valve.

VI. PHRENOESOPHAGEAL MEMBRANE

To one observer, this membrane must be dissected "with the eye of faith"[3]; to another, it is of sufficient importance to make the subject of a paper on hernia repair.[31] About its existence there can be no doubt. It is a derivative of that fascial continuum, deep to the peritoneum, which takes its local name from that part with which it is in relation, such as transversalis fascia, diaphragmatic fascia, etc. The fascia, rich in collagen and elastic fibers, extends from the hiatal margins upward to insert in the esophagus like a tent, and sends a prolongation downward into the cardial region. The upward prolongation receives a contribution from the endopleural fascia but this is not important. Some muscle fibers have been described in the upward limb (muscle of Juvara), and in the downward limb (muscle of Rouget).[37] Such a muscle sling is well developed in certain rodents and its function has been likened to that of the levator ani. In man, it may be of use during regurgitation. The membrane is important in fixing the relative motion between esophagus and diaphragm and is an antagonist to the longitudinal muscle of the esophagus. With age its elastic and collagenous elements atrophy, predisposing to sliding hiatal hernia. The gastrophrenic ligament, a peritoneal fold, has been referred to as a fixing element[54], but is a ligament in name only[10] and probably of minimal importance. The left gastric artery has been considered important in this regard.[4]

VII. DIAPHRAGM

This is the last of the anatomic elements to be considered in the esophagogastric segment, but just as controversial as any. Failure to understand certain basic anatomic features of the diaphragm may lead to faulty concepts.[18] Microscopically, the composition of the structure is not homogeneous[55], the anterior fibers being much weaker than the posterior by virtue of their frequent fibrous clefts. Respiratory excursion is not uniform[24], being, for example, 2 to 3 cm. at the hiatus, and 4 to 8 cm. at the cupola. The muscular composition as well as the subphrenic visceral make-up must play a role in this. The left hemidiaphragmatic crescent is largely a posterior structure made by the magenblase and spleen, its medial border delineated by the vertebral costophrenic sulcus. The esophageal hiatus does *not* penetrate this left hemidiaphragmatic crescent as illustrated so often, but is more anterior and usually medial. The erroneous implication that the cupola represents the crus is further abetted by the frequent presence of a longitudinal parallel strip of fat beneath it imparting to the medial border of the cupola a linear character. The hiatus on the sagittal projection must be situated within the limits of a triangle formed by the posteromedial sulcus described above, and the flat anterior contour of the diaphragm as the superior border, upon which the pericardium rests. On the usual right anterior oblique view this anterior contour of the diaphragm (superior border of the triangle) is often burned out, and the hiatal region may be projected below the cupola. The true relation of the lung to the diaphragm at the level of the hiatus can be obtained only by stratigraphy (Fig. 12) because the diaphragm in both planes is a series of complex curves. Enough to demonstrate the error of statements that a given finding in the esophagus is a certain distance "above or below the diaphragm" when the postero-medio-superior projection of the magenblase is used as the place of reference.

The hiatus has a specialized muscular border made up exclusively of the right crus in the majority of patients, but with a contribution from the left, and even a truly bilateral origin, in the occasional patient.[10,43] The right crus, after originating from several of the lumbar vertebral bodies, divides into a superficial thin layer to form the right border of the hiatus, and a much thicker deep layer to form the left border. The thickness of the right border approximates 2 mm., and the left varies between 4 and 12 mm., but never less than twice the thickness of the right. This thick left rim is said to account for the concave shadow at times seen medially through the magenblase.[56] Its inconstancy has been related to the great variation in thickness of the

left border of the hiatus as noted above, but the dynamic state of the crus must be important, too (Fig. 13). A tumor in the cardial region may produce an identical radiologic finding. Figure 14, a transverse section of the body at the level of the cardia, shows the anatomic substrate of this shadow, and other interesting relationships of the viscera as well.

Inspection of the muscular rim of the hiatus indicates that this cannot be a simple "hole for the transmission of the esophagus".[67] The thickened structure in relation to the rest of the diaphragm indicates that this muscle sling must do special work. It has been stated that this is the main component of the DECM.[1,32,66] This cannot be true for several reasons, among which are the satisfactory repair of hiatal hernia by making a new hiatus[46], the failure to produce an esophagitis by fashioning a significant

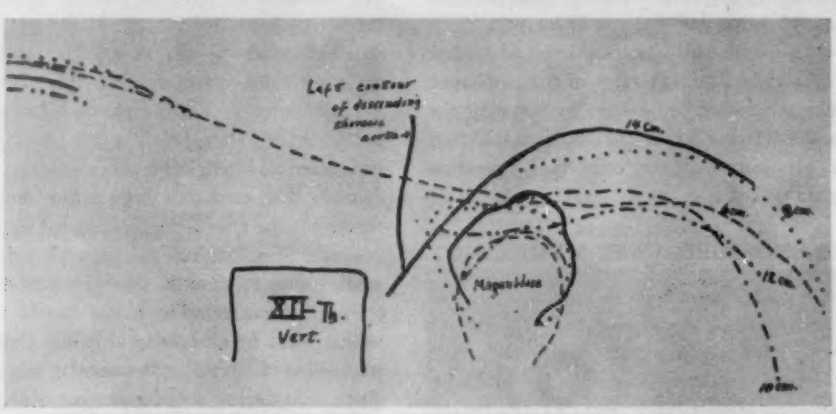

Fig. 12. These curves of the contours of the diaphragm were obtained from stratigrams at the indicated levels of an adult male lying prone. The complexity of the diaphragmatic "solid" is at once apparent, especially on the left side. It is apparent that the diaphragmatic crescent (level 14 cm.) is far posterior to the cardial region, and should not be used as a point of reference for observations within the esophagus. There is huge individual variation for these curves, as inspection of routine sagittal and lateral views of the chest will indicate.

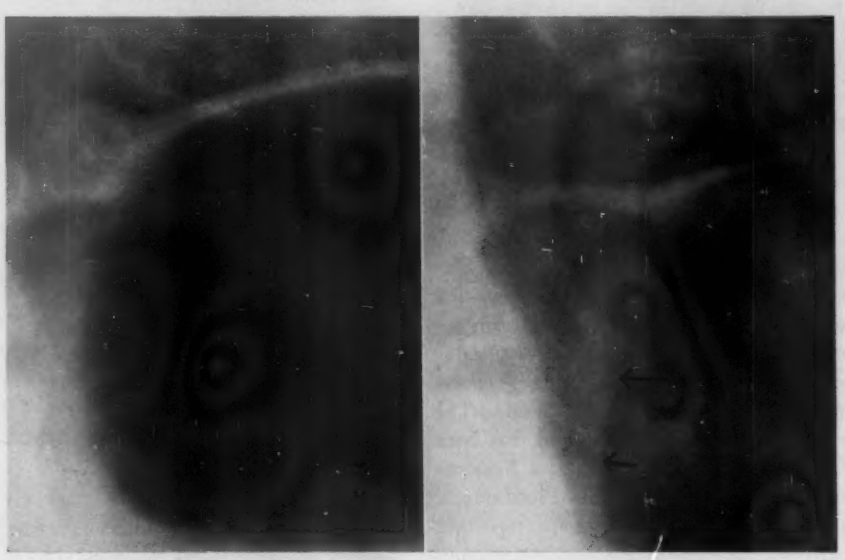

Fig. 13. This is one of a series of attempts to radiograph the cardial region during a belch. "A" is the resting state, and "B" during the attempt, a modified Valsalva maneuver. It is likely that the soft tissue shadow noted only in "B" represents the contracting, downward displaced right crus. It must be differentiated from the cardial button on Fig. 11. I have at times noticed a similar, but negative, shadow in the barium-filled fundus during the Valsalva maneuver, which disappeared, or was less marked, with relaxation, and have taken this, too, to be the contracting crural muscle.

abdominal esophagus[7], and the failure to cause esophagitis in the transected lower esophagus left intact with the cardial region, but production of esophagitis in the proximal end of the esophagus which had been brought through the hiatus and anastomosed with the stomach.[53]

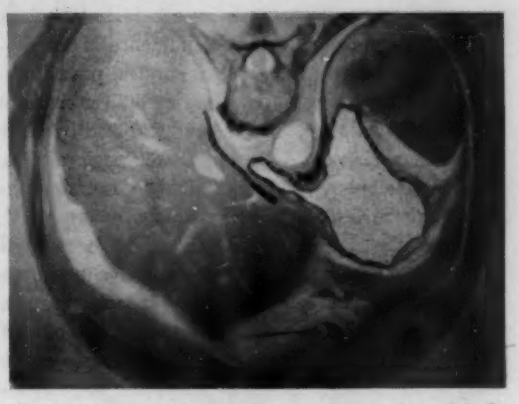

Fig. 14. Roentgenogram of transverse section of body through the cardial region. Right and left muscular margins of hiatus visualized with barium. Note how much thicker the left one is. Anatomic explanation for the convex defect at times seen in the cardial region. See text. (Taken from Roy-Camille: La Presse Medicale, 63:971-972, 1955).

What, then, is the function of the hiatal muscle sling? By its forces upon the lower esophagus exerted postero-medio-caudad, it increases the angulation of the esophagus, which has been considered an important factor in esophageal continence, just as the puborectalis muscle in continence of the rectum.[1] However, no marked change in angulation can be made out during normal respiration. To demonstrate that the diaphragm may be completely effective as a sphincter at times, however, let the reader attempt drinking a glass of water during the height of the effort of evacuation. If the effort is sufficiently vigorous, swallowing is impossible. Efforts have been made to discredit its role in producing the ampulla by ascribing on the unclear grounds discussed previously such action to the inferior esophageal sphincter and the constrictor cardiae, and also to the simple pressure differential between the pleural and peritoneal cavities during the Valsalva maneuver.[44] To prove this latter thesis, the differential was produced by inflating a balloon strapped to the anterior wall of the abdomen, with observations of the barium bolus within the esophagus at various pressure differentials. It is difficult to accept the illustration in reference 44 as one of a phrenic ampulla, or the statement that a high diaphragm means a relaxed diaphragm. Isometric contraction cannot be excluded. Furthermore, exclusion of the diaphragm in forming the phrenic ampulla because no motions of the hiatal margin are felt with the finger in the hiatus during operations is not acceptable because this is not universal experience.[17,37,44,66] Nor is the statement acceptable that persistence of ampullary formation after phrenicotomy excludes the role of the diaphragm, because the innervation of the hiatal sling may be bilateral[23], and the crura, being derived from Wolffian body mesoderm[47] may have innervation from the first lumbar nerve.

The main function of the hiatal muscle sling may be simply helping to keep the cardial region in its proper place below the diaphragm. In deep inspiration the intragastric pressure is highest, and the intraesophageal pressure is lowest, and the angle of His is widest. At this point, the tendency for regurgitation and retraction of the cardial region is maximal[15], and the contracted sling guards against both these occurrences. Similar forces are operative when there is any increase in intraperitoneal tension such as weight-bearing, etc.

All variations in snugness of the hiatus are found. The older the patient, usually the less snug is the hiatus. The radiologic boundaries between unusual laxity, hiatal insufficiency, and frank hernia are not sharp. It has been commonly implied that hiatal insufficiency is the first, and necessary, step in hernia formation. Probably in the paraesophageal variety, this is true (along with the requirement of a preformed peritoneal sac), but it is not necessarily true in the sliding variety. Two factors must be at play in the sliding hernia[4], varying in importance from patient to patient, but a sliding hernia resulting when their product reaches a certain constant. These factors are the resistance offered the upward migrating cardial region by the muscular hiatal sling, and the strength of its fixation below the diaphragm. It is logical that a lax hiatus with a moderately strong fixation may produce the same end-result, namely, hernia, as a moderately strong hiatus with lax fixation.

The radiologic diagnosis of hiatal insufficiency is frought with difficulty. The diagnosis of "epiphrenic pouch" is acceptable so long as its diagnostic non-specificity is admitted, and there is no reflux. If the clinical picture suggests esophagitis, esophagoscopy is in order.

A complete or incomplete ring shadow, projected above the cupola indicates either hiatal insufficiency or even hernia.[52] This appearance has been likened

to Saturn's ring in the European literature[11,37], and considered merely some redundant mucosa, and not abnormal. It has been regarded also as evidence of intussception of the esophagus into a hiatal hernia.[39] A more convincing example of intussception is found elsewhere[28], and it would appear that elongation of the esophagus (megaesophagus) is a necessary condition. True intussception does not resemble Saturn's ring.

Fig. 15. Abortive Saturn's ring. Lax hiatus? Valsalva maneuver.

In my opinion, Saturn's ring is made by entrapping either cardial or fundal stomach within the hiatus during the Valsalva maneuver, probably conditioned by a lax hiatus (Fig. 15), or a frank hernia (Fig. 16), but the possibility of this occurring normally cannot be excluded.

VIII. RECAPITULATION OF THE CONSTITUENTS OF THE DECM

Probably the main component is at the cardial region itself. All the other factors can be surgically obliterated without reflux provided that the cardial region remains intact, such as section of the hypertrophied vestibular muscle in achalasia (Heller's operation) and removal of the influence of the diaphragm by various experimental surgical procedures. A hypothetical conception of the cardial mechanism is this: a cardial constrictor band, assisted by other factors favoring the deepening of the angle of His, such as the submucosal tract of fibers coursing obliquely through the angle, and the magenblase itself, prepares the field for the operation of a mucosal valve, just as the intact aortic ring is a necessary condition for the competence of the aortic valves. The true vestibular sphincter, which, in spite of anatomic evidence, appears to have the same extension of the vestibule itself at times, and more localized at other times, is considerably weaker than the cardiac mechanism, and is of secondary importance. In certain hernias with loss of the cardial mechanism, the vestibular sphincter is called upon to take over, and may respond with work hypertrophy. In time, it too becomes insufficient with free reflux. The hiatal muscular sling, while not of prime importance, is useful mainly in maintaining the cardial elements below the diaphragm where they must remain for proper functioning, and is especially operative at those times when cardial elevation is most likely such as increased pressure differential. The main mechanism for keeping the cardial region below the

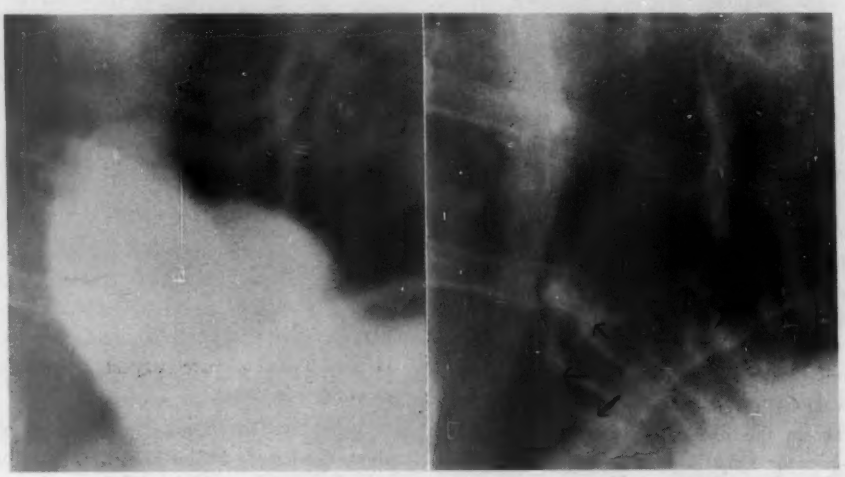

Fig. 16. A. Frank sliding hernia. B. Saturn's ring. Valsalva maneuver.

diaphragm, however, is the phrenoesophageal membrane.

IX. CAUSES OF FAILURE OF DECM

1. Regurgitation may be completely normal in the infant[6,58], especially when he is lying supine with the cardial region below the level of the gastric contents. It is strange that the question of normalcy should ever have arisen. Studies using cineradiography with image amplification have shown a different pattern of emptying mechanics in the lower esophagus in infants as compared with older subjects, and this has been ascribed to a more primitive intramural reflex as compared with the better developed arc depending on the intact vagus in the older ages groups.[12] This regurgitation of infants (chalasia) treated by simple elevation of the patient following feeding has a good outlook. However, regurgitation continues in some, with the production of esophagitis, bleeding, stricture and perforation.[2,6] Probably most of these patients represent something more serious than failure of the swallowing reflex to mature, such as sliding hernia and congenitally short esophagus. It is difficult to separate chalasia, hernia, and congenitally short esophagus, on the basis of the radiologic examination.

The French school refers to the condition of "malposition-cardiotubérositaire"[8,54,64], due to faulty fixation of the cardial region beneath the diaphragm especially because of poorly developed or absent phrenoesophageal membrane and poorly developed hiatal muscular ring. Indeed, the esophagus and aorta may have a common opening. The cardial region is patent resembling an inverted funnel. The magenblase is diminished, or absent, and the angle of His is wide. Reflux is present, but its absence should not invalidate the diagnosis. Surgical treatment is based principally on restoring the angle of His, with supplementary measures of fixing the fundus to the diaphragm and reconstructing the hiatus. Care should be taken in any estimation of the angle of His, in my opinion, because determination should be made only when the plane of entry of esophagus into stomach is at right angles to the incident ray and parallel to the film.

Another cause for failure of the DECM in infancy is a congenitally short esophagus. Statements that this condition probably does not exist are not acceptable, although the condition is not common. It is usually considered a type of hiatal hernia but this is incorrect, and the treatment based on such a conclusion can lead to disaster.[3] It is no hernia because the esophagogastric junction never was below the diaphragm. Positive diagnosis is possible only by the surgical determination that the blood supply of the distal esophageal reaches arises directly from the thoracic aorta, rather than from the displaced left gastric artery. However, suspicion of the condition may be offered by the endoscopic finding of unusually proximal extension of the gastric mucosa in the distal gullet. Certainly the radiologic diagnosis is of limited value[61]: the finding of short esophagus proves usually to be an esophagus of normal length which is easily replaced below the diaphragm, the shortness being due to the action of the longitudinal muscle in taking up the slack. The gastric mucosa in the gullet should not be called ectopic: true ectopic mucosa usually presents as islets in the proximal esophagus.[4] The gastric-lined gullets may distend, and, at least in older patients, have a characteristic doubly constricted appearance.[60]

2. The most important cause for failure of the DECM is displacement of the cardial region above the diaphragm, sliding hernia. The fundamental factors allowing this displacement are congenital or acquired weakness of the cardial fixing elements and the muscular sling of the hiatus, and atrophy of the supporting tissue within the hiatus, abetted by those states that predispose to increased pressure differential between the peritoneal and pleural cavities, such as obesity, tumor, pregnancy, etc. Intrathoracic factors are not well defined, but mediastinal displacement[34] and pleural scarring[40] may play a role. The opinion is commonly expressed that primary esophagitis with its spasm and scarring will initiate the sliding hernia.[13,25,34] This must be exceptional[4]; note that the intense esophageal spasm and scarring following ingestion of caustics do not cause hernia.

3. Failure of the DECM without sliding hernia. This has already been discussed as a frequent finding in otherwise normal infants, and is common in healthy adults as well.[44] Indeed, the surreptitious intra- and postprandial belch is so common as to escape notice (except by others). Water-brash is almost as common especially following a large meal. Dyspepsia in pregnancy, even without hiatal hernia, is common. It is identical to that resulting from reflux and must be due to it: heartburn, flatulence and postural regurgitation. One or more of the following factors are present in the failed DECM: change in posture, gastric distention, diminished peritoneal capacity, swallowing, and diminution of the cardial angle occurring during the respiratory cycle. The DECM, therefore, would be most likely

to fail under the following circumstances: a fat person bending over after a big meal, shortly after swallowing, and in inspiration. These factors are concerned in all cases of clinical regurgitation, whether a sliding hernia is present or not. Hiatal hernia is found in only a minority of cases of clinical regurgitation[44], but probably most of the cases that progress to chronic esophagitis are associated with hernia.

The cause for the failure of the DECM following a poorly tolerated food or associated with biliary or peptic disease is not certain; it is possible that under these circumstances there is pylorospasm with an active increase in gastric pressure.[44]

X. EFFECTS OF THE FAILURE OF THE DECM

Reflux of gastric contents into the esophagus may produce, in some patients, esophagitis. There are all degrees of severity ranging from slight reddening of the mucosa to ulceration, scarring, periesophageal induration, stricture and perforation. The esophagoscopic impression of the intensity of the reaction may be much less than the actual findings.[47] Not all patients with reflux present esophagitis. Many factors must be involved: a fundamental "ulcer diathesis" has been assumed by some. There is no relation between the esophagitis and the degree of gastric acidity[47], esophagitis being found even with achlorhydria. It is likely that the products of digestion and components of gastric secretion other than acid play a role. The quantity and chemical constitution of the saliva and the esophageal secretions may be of significance. That the cause of esophagitis is not solved is indicated by the charming account of a lady life-long ruminator, who, as a young girl singing in the choir fifty years before, would ensconce her toffy in her stomach while she sang a hymn, only to produce it later to enjoy it at her leisure.[1]

There are two types of ulceration in esophagitis: peptic erosion of the inflamed edematous squamous mucosa of the esophagus, and true peptic ulcer occurring on the gastric side of the esophagogastric junction. Being gastric mucosa, it is heir to all the diseases of the stomach, including cancer. Both types of ulcer may occur at the same time. It has been suggested that gastric ulcers may result from chronic contact of gastric juice upon the gastric end of longitudinal mucosal rents that cross the esophagogastric junction (Mallory-Weiss syndrome), this occurring only in the presence of a hiatal hernia.[21]

It would appear that conditions of stricture and spasm in the lower esophagus at times may initiate and propagate esophagitis and ulceration by virtue of stagnation. Certainly, the ulceration of achalasia can be explained thus. Even the hiatal muscle sling has been implicated as an obstructing agent in hiatal hernia, and the beneficial effects of phrenicotomy have been explained by relaxing the hiatus, and relieving the stagnation of gastric contents proximal to it.[51]

XI. HIATAL HERNIA

Although numerous excellent discussions of the pathology, clinical picture and treatment are available[4,22,36,42], certain features merit emphasis.

1. Sliding hernia. The term "sliding" has a definite surgical meaning[43,61]: one side of the hernial sac is composed of the viscus itself. The usual, and incorrect, connotation of the term is easy reducibility. Indeed, these hernias as encountered surgically are fixed: if anything is sliding, it is the barium of the radiologic examination.[43] Certainly some hernias encountered radiologically[1], especially in children[63], are reducible. In the sliding hernia, the cardial region is retracted upward, its bare spot (devoid of peritoneum) is posterior, the peritoneal reflexion being anterior and on both sides but ensheathing no viscera.[61] The sliding hernia is commonly, but not necessarily (Fig. 7), associated with loss of the cardial angle, which is an important step in loss of the DECM. The thickened companion shadow (Fig. 7) must be due to the thicker pericardial stomach and the peritoneal reflexion.

The pathologic anatomy of the hernia itself is not so important as the physiologic defect of loss of the DECM[33], which commonly results in esophagitis. Esophagoscopy is important not only to confirm the presence of esophagitis, but also to exclude an associated malignancy, which probably caused the defect in the DECM, rather than the chronically inflamed mucosa causing the malignancy.[50,59] Any radiologic diagnosis of esophagitis should be confirmed with esophagoscopy since a physiologically unimportant hernia may draw attention away from the offending organ.

It should be of prime concern to the radiologist to demonstrate reflux. Reflux demonstrated radiologically without hernia is unusual.[21,25,35] Many maneuvers have been recommended: the simple Valsalva test, straight leg raising with the patient supine, bending over to touch the floor with the patient upright and side-wise to the fluoroscopic screen, and a small pillow under the epigastrium with the patient

prone, being as good as any.[14,24] Demonstration may be whimsical, even dependent on the cooperation of the patient.[35]

2. Paraesophageal hernia. There are several fundamental differences between this and sliding hernia. The hernia is completely covered on all sides with peritoneum, and is said to occur in a preformed sac, probably a derivative of the non-obliterated right pneumato-enteric recess.[3] It has been stated that the actual herniation is through the muscular rim of the hiatus[61], a parahiatal, rather than paraesophageal hernia, since some muscle fibers are present between the true hiatus and the hernia. This has been doubted.[3,21] Whereas the pericardial portions of the stomach are involved in the sliding hernia (hence, the alternative terms of axial and concentric), the region of the greater curvature is involved in the paraesophageal type. These portions "roll" up into the sac, the greater curvature now being most cephalic and the pericardial portions remaining in situ. The alternative name, rolling hernia, should be avoided because ambiguity has already appeared.[3] The greater curvature drags its attached gastrocolic ligament into the sac. Rarely, another viscus may be present with the stomach in the hernial sac, or even without the stomach.[3]

The clinical picture, as opposed to the esophagitis accompanying the sliding variety, is dependent primarily on the space-occupying mass, and may be dominated by cardio-respiratory or gastrointestinal complaints, including bleeding. The bleeding may originate from ulceration or possibly circulatory changes within the herniated portion. Strangulation is an unusual occurrence and may defy radiologic demonstration. There is no reflux, and the cardial region remains intact below the diaphragm.

3. Mixed hernias. These are not well-defined, and include hernias with features of the two groups described above.

Although the value of radiology in the diagnosis of hiatal hernias should not be minimized, surgical visualization is needed for complete and positive identification as to type.[25,61]

XII. RATIONAL RADIOLOGIC CLASSIFICATION

The following radiologic classification of hiatal hernia has merit.

A. Cardial incisura lost, and above diaphragm (sliding hernia).
   The DECM disturbed or lost. Reflux present or imminent.

B. Cardial incisura preserved.
   1. Incisura below diaphragm (paraesophageal hernia).
      DECM preserved. No reflux.
   2. Incisura above diaphragm (mixed hernia).
      Reflux possible.

This classification depends primarily on the position of the cardial region which is the determining factor in the production of reflux.

Note: Special thanks are due Dr. Donald King, Richmond Memorial Hospital, Richmond, for his kindness in furnishing the stratigraphy, upon which Fig. 12 is based.

References

*1. Allison, P. R.: Reflux Esophagitis, Sliding Hiatal Hernia, and the Anatomy of Repair. Surg., Gynec. & Obst. 92:419-431, 1951.

2. Astley, R., and Carré, I. J.: Gastro-Oesophageal Incompetence in Children With Special Reference to Minor Degrees of Partial Thoracic Stomach. Radiology 62:351-362, 1954.

*3. Barrett, N. R.: Hiatus Hernia. A Review of Some Controversial Points. Brit. J. Surg. 42:231-244, 1954-1955.

*4. Barrett, N. R.: Discussion of Hiatus Hernia. Proceed. Royal Soc. Med. 45:277 290, 1952.

5. Beck, H. R.: Beitrag zur Roentgenologie der Hiatushernie und der Hiatusinsuffizienz. Fort. auf dem Geb. der Roentg. 81:276-283, 1954.

6. Blank, L., and Pew, W. L.: Cardio-esophageal Relaxation (Chalasia) Studies on the Normal Infant. Am. J. Roentgenol. 76:540-550, 1956.

7. Braasch, J. W., Ellis, F. H. Jr.,: The Gastro-esophageal Sphincter Mechanism: An Experimental Study. Surgery 39:901-905, 1956.

8. Bugnion, M.: Relaxation cardio-oesophagienne et séquelles de malposition cardio-tubérositaire. Radiol. Clin. 26:355-358, 1957.

9. Butin, J. W., Olsen, A. M., Moersch, H. J., and Code, C. F.: A Study of Esophageal Pressures in Normal Persons and Patients with Cardiospasm. Gastroenterology 23:278-293, 1953.

10. Carey, J. M.: An Anatomic Study of the Esophageal Hiatus. Surg. Gynec. & Obst. 100:196-200, 1955.

11. Catalano, D.: Radiologic Aspects of the Inferior Esophagus: The Phrenic Ampulla and the Cardiac Antrum. La Radiologia Med. 40:11-19, 1954 (In Italian).

12. Catel, W., and Garsche, R.: Studien bei Kindern mit dem Bildwandler. 1. Mitteilung: Anatomie und Motilitaet des distalen Oesophagus-Abschnittes. Fort. auf dem Geb. der Roentg. 85:1-11, 1956.

(*Indicates especially interesting and useful references.)

13. Dawson, J.: Reflux Oesophagitis and its Radiological Differential Diagnosis. Brit. J. Rad. 26:310-316, 1953.

14. Donaldson, S. W., Boyd, J. W., Harris, J. R., and Butler, E. B.: Evaluation of the Various Methods of Demonstrating a Hiatus Hernia. Am. J. Roentgenol. 75:262-278, 1956.

15. Donnelly, B.: Gastro-oesophageal Regurgitation and Oesophageal Hiatus Hernia with Special Reference to the Differential Diagnosis of Angina Pectoris. Brit. J. Radiol. 26:441-454, 1953.

16. Dorland, W. A. N.: The American Illustrated Medical Dictionary. Philadelphia, W. B. Saunders, 1937.

*17. Dornhorst, A. G., Harrison, K., Pierce, J. W.: Observations on the Normal Oesophagus and Cardia. Lancet 1:695-698, 1954.

*18. Eberl, J.: Zur roentgenologischen Darstellung und Analyse des Diaphragmas und Foramen oesophagicum. Fort. auf dem Geb. der Roentg. 81: 270-275, 1954.

19. Epstein, B. S.: The Effects of Sustained Deep Inspiration on the Normal Lower Esophagus and Phrenic Ampulla in Erect Adults. Am. J. Roentgenol. 78.1013-1019, 1957.

20. Evans, J. A.: Sliding Hiatus Hernia. Am. J. Roentgenol. 68:754-763, 1952.

*21. Fleischner, F. G.: Hiatal Hernia Complex. Hiatal Hernia, Peptic Esophagitis, Mallory-Weiss Syndrome, Hemorrhage and Anemia, and Marginal Esophago-gastric Ulcer. J.A.M.A. 162:183-191, 1956.

22. Gants, R. T.: Diaphragmatic Hernia. Review of Literature with Report of Illustrative Cases. Ann. Surg. 139:166-178, 1954.

23. Gray, H.: Anatomy of the Human Body. Twenty-Third Edition. Philadelphia, Lea & Febiger.

24. Hafter, E.: Roentgenologische und Klinische Aspekte der Hiatushernie. Radiol. Clin. 26:382-396, 1957.

25. Harrington, S. W.: Esophageal Hiatal Diaphragmatic Hernia. Surg., Gynec. & Obst. 100:277-292, 1955.

26. Hilscher, W. M.: Neue Gesichtspunkte zur Frage der Hiatushernien, Die oesophageale und paragastrale Hernie. Fort. auf dem Geb. der Roentg. 82:195-202, 1955.

27. Hodges, F. M., Snead, L. O., and Berger, R. A.: A Stellate Impression in the Cardiac End of the Stomach Simulating Tumor. Am. J. Roentg. 47: 578-583, 1942.

28. Howell, A. B.: Gross Anatomy. New York. D. Appleton-Century Company.

29. Ingelfinger, F. J. and Kramer, P.: Dysphagia Produced by a Contractile Ring in the Lower Esophagus. Gastroenterology 23:419-430, 1953.

30. Ingelfinger, F. J., Kramer, P., and Sanchez, G. C.: The Gastroesophageal Vestibule, its Normal Function and its Role in Cardiospasm and Gastroesophageal Reflux. Am. J. Med. Sci. 228:417-425, 1954.

31. Johnsrud, R. L.: The Repair of the Phrenoesophageal Ligament in Surgical Treatment of Hiatal Hernia. Surg., Gynec. & Obst. 103:708-710, 1956.

*32. Johnstone, A. S.: The Diagnosis of Early Gastric Herniation at the Oesophageal Hiatus. J. Fac. Rad. 3:52-65, 1951-1952.

*33. Johnstone, A. S.: Reflexions on Hiatus Hernia and Related Problems. Editorial. Radiology 62:750-753, 1954.

34. Johnstone, A. S.: Oesophagitis and Peptic Ulcer of the Oesophagus. Brit. J. Radiol. 28:229-240, 1955.

*35. Johnstone, A. S.: Discussion of Hiatus Hernia. Proc. Royal Soc. Med. 45:277-290, 1952.

36. Jones, F. A.: Discussion of Hiatus Hernia. Ibid.

*37. Jutras, A., Levrier, P., and Longtin, M.: Etude Radiologique de L'Oesophage Para-diaphragmatique et du Cardia. J. de Radiol. 30:373-416, 1949.

38. Kay, E. B.: The Inferior Esophageal Constrictor in Relation to Lower Esophageal Disease. J. Thorac. Surg. 25:1-15, 1953.

39. Klinefelter, E. W.: Invagination of the Esophagus in Hiatus Hernia. Radiology 67:562-567, 1956.

40. Kuosmanen, O.: Ueber das Vorkommen von Hiatushernien und Kardianinsuffizienz in Verbindung mit Pleuraschwarte. Act. Rad. Suppl. 153, 1957.

41. Lerche, W.: The Esophagus and Pharynx in Action. C. C. Thomas, 1950.

*42. Lyons, W. S., Ellis, F. H. Jr., and Olsen, A. M.: The Gastroesophageal "Sphincter" Mechanism: A Review. Proceed. Staff Meet. Mayo Clin. 31: 605-614, Nov. 14, 1956. (This is an especially good, short review.)

43. Madden, J. L.: Anatomic and Technical Considerations in the Treatment of Esophageal Hiatal Hernia. Surg., Gynec. & Obst. 102:187-194, 1956.

*44. Marchand, P.: The Gastro-oesophageal "Sphincter" and the Mechanism of Regurgitation. Brit. J. Surg. 42:504-513, 1954-1955.

45. Maximow, A. A., and Bloom W.: A Textbook of Histology. Second Edition. W. B. Saunders Co., 1937.

46. Merendino, K. A., Varco, R. L., and Wangensteen, O. H.: Displacement of the Esophagus into a New Diaphragmatic Orifice in the Repair of Paraesophageal and Esophageal Hiatus Hernia. Ann. Surg. 129:185-197, 1949.

47. Nicholson, S.: Diaphragmatic Hernia. Ann. Surg. 136:174-182, 1952.

48. Palmer, E. D.: An Attempt to Localize the Normal Esophagogastric Junction. Radiology 60:825-831, 1953.

49. Palmer, E. D.: Achalasia: Anatomy of the Cardia as it Relates to the Regional Pathophysiology. Radiology 67:79-83, 1956.

50. Pattinson, J. N., Osborne, G., and Morson, B. C.: Hiatus Hernia with Adenocarcinoma Arising in the Region of the Cardia. J. Fac. Rad. 7:90-101, 1956.

51. Pecora. D. V.: Observations of the Pathologic Physi-

ology of the Lower Esophagus in Sliding Hiatal Hernia with Comments on Surgical Treatment. Ann. Surg. 143:459-464, 1956.

52. Poppel, M. H., Zaino, C., and Lentino, W.: Roentgenologic Study of the Lower Esophagus and the Esophagogastric Junction. Radiology 64:690-700, 1955.

53. Repess, J. C.: Personal Communication. University of Virginia.

54. Robert, F., and Hoffmann, Th.: Zur Frage der Hiatusanomalien und des Kardiarefluxes Kardia-Fornix-Fehlanlagen. Fort. auf dem Geb. der Roentg. 81:255-270, 1954.

55. Rossetti, M.: Ueber die partielle Relaxation des rechten Hemidiaphragma. Radiol. Clin. 23:210-223, 1954.

56. Roy-Camille, R.: Remarques sur l'Orifice Oesophagien du Diaphragme. Intérêt Radiologique. La Presse Medicale. 63:971-972, 1955.

*57. Schatzki, R. and Gary, J. E.: The Lower Esophageal Ring. Am. J. Roentgenol. 75:246-261, 1956.

*58. Silverman, F. N.: Gastroesophageal Incompetence, Partial Intrathoracic Stomach, and Vomiting in Infancy. Radiol. 64:664-674, 1955.

59. Smithers, D. W.: The Association of Cancer of the Stomach and Oesophagus with Herniation at the Oesophageal Hiatus of the Diaphragm. Brit. J. Radiol. 28:554-564, 1955.

60. Som., M. L., Shapiro, J. J., and Jacobson, H. G.: The "Gastric-Lined" Esophagus with Esophagitis. Radiology. 69:856-859, 1957.

61. Sweet, R. J.: Thoracic Surgery. W. B. Saunders Co., 1950.

*62. Sycamore, L. K.: Radiologic Diagnosis of Hiatus Hernia. Gastroenterology. 31:169-189, 1956.

63. Thomsen, G.: Hiatus Hernia in Children. Acta Rad. Suppl. 129, 1955.

64. Wettstein, P.: Le carrefour oesophago-gastrique chez le nourrisson et l'adulte. Radiol. Clin. 26:359-381, 1957.

65. Wettstein, P., and Bardet, P.: Quelques problèmes posés par les hernies à travers le hiatus oesophagien. Radiol. Clin. 24:266-271, 1955.

66. Woolner. G. H.: Discussion of Hiatus Hernia. Proc-Roy. Soc. Med. 45:277-290, 1952.

67. Zaino. C., Poppel, M. H., and Blazsik, C. H.: Roentgenologic Study of the Abdominal Segment of the Esophagus in the Presence of Pneumoperitoneum. Am. J. Digest. Dis. 22:121-128, 1955.

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Exhibit of Rare Medical Books

The Medical School Library of the University of Virginia is exhibiting a few of the rare medical books which were given to the University Libraries some time ago by Dr. Stephen H. Watts. These are among the oldest medical books owned by the University Libraries and are usually locked up in the Rare Book Room of Alderman Library. The exhibit, installed March 23d, will be shown through June.

Dr. Watts, whose portrait hangs in the Medical Library, was a former professor of Surgery in the University of Virginia School of Medicine. He trained under Dr. William Stewart Halsted at Johns Hopkins University School of Medicine. Dr. Watts endowed the chair of surgery which now carries his name at the University of Virginia School of Medicine. He also set aside an endowment for the Medical School Library at this University.

The oldest material to be shown in the exhibit are two volumes of the 1550-51 edition of Galen's *Omnia quae extant opera,* printed in Venice. The 1555 edition of Vesalius' *Imperatoris medici de humani corporis fabrica libri septem* is also shown.

The exhibit also shows Fallopius' *La chirurgia,* Venice 1647. This is the man for whom the Fallopian tubes were named. He was a versatile writer on surgery, syphilis, mineral waters and other subjects.

Space is limited in the exhibit cases. Therefore, the only other book shown at this time from many given by Dr. Watts is William Harvey's *Exercitationes de generatione animalium* of 1680.

The Medical School Library is fortunate in having such rare and interesting books from the early history of medicine.

Vertigo of Central Origin

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THIS DISCUSSION is concerned with the differentiation of vertiginous lesions of central and peripheral origin and a consideration of some aspects of vertigo arising from lesions within the central nervous system. Recent advances in neuro-otology, including an accumulation of a substantial body of clinico-pathological and experimental evidence, have helped materially in localizing diseases along the vestibular pathways. Improved techniques in the caloric, rotatory and galvanic vestibular tests and in pure tone and speech audiometry have given us a better understanding of the puzzling and ofttimes bewildering symptom of vertigo.

When vertigo of central origin is suspected these tests furnish means of localizing peripheral lesions in the labyrinth and along the vestibular nerve, or in themselves, may localize a centrally placed lesion. They assist in interpreting the findings of the neurological examination and ancillary studies such as electroencephalography and angiography.

In recent years increased interest has been shown in the pathogenesis and treatment of cerebrovascular disease. This is a result of new concepts of therapy and a change in the heretofore hopeless attitude toward cerebral thrombosis. When the vertebral-basilar system is involved, vertigo often constitutes an important symptom. The symptom complex of vertebral-basilar arterial insufficiency can be recognized as an impending or actual thrombosis, and prompt surgical, anticoagulant or possibly enzymic therapy can be instituted. The classic symptomatology of major vessel thrombosis is of course well known to you. However in the case of "little strokes" the vertigo may be transient and unaccompanied by any other recognizable cerebral signs or symptoms. If the labyrinth is found to be within normal limits, attention can be focused on a central mechanism and an awareness of the possibility of cerebrovascular insufficiency will give the physician a firmer basis for successful management.

PERIPHERAL VERTIGO

Most cases of vertigo are caused by disturbances of the peripheral vestibular pathway, which is generally considered to extend from the end organ, along the vestibular nerve up to and including the vestibular nuclei in the brain stem. In otological practice, according to Cawthorne, less than 10% of cases of vertigo are of central origin; in general practice this incidence is greater. In as much as the diagnosis of vertigo of central origin is sometimes made by exclusion, a knowledge of the recent concepts of peripheral vestibular tract disease is necessary. Fortunately the diagnosis of peripheral types of vertigo is fairly definite. The current trend[1] in classifying the organic diseases of the labyrinth and eighth nerve system is illustrated in Fig. 1. These diseases are identified by the character and course of the vertigo, the response to caloric stimulation, the response to pure tone and speech audiometry, and the presence or absence of loudness recruitment. The qualitative caloric test of Hallpike is still being evaluated. Abnormal responses to this test, using the finding of canal paresis and directional preponderance, correctly interpreted, can help identify peripheral lesions as well as lesions within the cerebral hemisphere or the brain stem. Improvements in techniques of nystagmus recording and in rotational tests using minimal stimulation (cupulometry) refine these diagnostic methods, and may aid in understanding, for instance, the disorders of the utricle. The galvanic tests is considered by some investigators to distinguish between a lesion in the sensory end organ, one in the neurone, or one in the vestibular nuclei in the brain stem. The value of the tests for optokinetic nystagmus is still under investigation. Abnormal response to this test is said to be helpful in the diagnosis of cerebral lesions, in particular neoplasms and disseminated sclerosis.

Little mention will be made of the role of diseases of the middle ear, external canal, or eustachian tube in the causation of vertigo. They are regarded, as a rule, not as significant factors.

I would like to mention briefly, two disorders of the peripheral vestibular tract, vestibular neuronitis and postural vertigo, because of their importance in the differential diagnosis of vertigo of central origin.

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Fig. 1

AURAL VERTIGO

DISEASE	ETIOLOGY	CHARACTERISTICS
Meniere's Disease	Endolymphatic Hydrops	Episodic Vertigo with Tinnitus Fluctuating Deafness Poor Discrimination Score Recruitment—Abnormal Caloric Test
Vestibular Neuronitis	A Toxic or Inflammatory Lesion of Vestibular Neuron	Acute Vertigo—Spontaneous Nystagmus Abnormal Caloric Test—High Sed Rate Absent Auditory and Neurologic Signs
Postural Vertigo	A Traumatic, Low Grade Infection Or Vascular Occlusion of Otolith Apparatus? Or of Central Origin	Vertigo on Change of Head Position Positive Postural Test Positional Nystagmus Caloric Test Often Normal Cochlea Negative
Cerebello-Pontine Angle Lesion	Acoustic Tumor Arachnoiditis Meningioma	Early Loss of Hearing and Caloric Reaction Tinnitus—Vertigo Sometimes—Nystagmus Absent Corneal Reflex No Recruitment Facial Paralysis and Choked Disc Late Positive X-ray for Bone Erosion
Labyrinthitis Perilabyrinthitis Labyrinthosis	Toxic: Drugs-Systemic Foci Traumatic: Fracture—Concussion Post Operative Vascular: Thrombosis—Embolism Ischemia—Hemorrhage Temporal Bone Disease: Infection Tumor—Cholestheatoma Motion Sickness Allergy Epidemic Labyrinthitis Mumps—Encephalitis—Herpes	Vertigo and Nystagmus Usually Severe Tinnitus Deafness—Conductive or Perceptive Depending on Cause

VESTIBULAR NEURONITIS

Vestibular neuronitis resembles Meniere's disease, the most common disease of the labyrinth. The condition is characterized by attacks of paroxysmal vertigo and nystagmus, which initially may be quite marked. The significant differential factor is the normal cochlear function. This entity then is recognized by the normal audiogram, the absence of neurological signs implicating the central nervous system, and the abnormality of the caloric test. Vestibular neuronitis is considered a benign inflammatory process of uncertain etiology; concurrent infective disease elsewhere in the body is frequently present. The location of the lesion is probably in Scarpa's ganglion or in the neuron as far centrally as the vestibular nuclei. The electroencephalogram and cerebrospinal fluid has been found to be normal. The acute stage lasts for days to several weeks; a feeling of unsteadiness and minor dizzy sensations may continue for a month or two.

The acute phase of neuronitis may resemble the acute fulminating vertigo of herpes zoster oticus and other neurotrophic virus diseases affecting the eighth nerve. In herpes oticus the cochlear nerve is usually involved, a vesicular eruption in the geniculate zoster area is present, and an increase in the cell count and protein in the cerebrospinal fluid is found.

POSTURAL VERTIGO

The complaint of dizziness on change of position of the head or body is a very common one and may accompany many well organized, traumatic, vascular, neoplastic, degenerative and viral diseases of the brain and labyrinth. The demonstration of positional nystagmus in cases of postural vertigo identifies an entity now recognized as postural vertigo. By the use of the postural test, to elicit positional nystagmus, as outlined by Cawthorne, and based on the nature of the response, the characteristics of a peripheral and central lesion can be shown. Cawthorne[2] found in a series of 127 cases of positional nystagmus that 10% were associated with central nervous system disease, brain tumor, brain abscess, multiple sclerosis, and cerebrovascular disease, and 90% were of labyrinthine origin. Hallpike[3] prefers to describe this entity as "positional nystagmus of the benign paroxysmal type" due to a "lesion resulting from trauma, low grade infection or vascular occlusion affecting the otolith apparatus". Hallpike found abnormal response to the caloric test in 100% of his cases. Lindsay has written that in most cases of postural vertigo it is difficult to assign a definite etiology or a precise localization. In the older age group the symptom is due to circulatory inadequacy. In the functional group the

cause may vary from syncope to the hyperventilation syndrome.

Postural vertigo can then be considered a benign disease, usually of labyrinthine origin; the cause of the disturbance is often vascular and the trend in current treatment is in this direction. Cranial trauma, infections elsewhere in the body, allergic reactions to drugs and other substances, and systemic disease are all etiologic factors to be considered.

Postural vertigo may occur as an early symptom in multiple sclerosis and posterior fossa tumors. Observation of the progressive nature of the disease, the presence of associated neurologic signs or symptoms, and positive postural tests for positional nystagmus of the central type alert the clinician to the correct diagnosis.

Lindsay[4] has also reviewed some cases of acute vertigo of sudden onset; the acute symptoms gradually subside but often postural vertigo continues for months or years afterwards. His explanation for this situation is a unilateral partial loss of vestibular function due probably to a peripheral vascular occlusion.

CENTRAL VERTIGO

Vertigo of central origin may arise from many disorders of the brain stem or disease processes involving the ascending and descending vestibular pathways. It is most often a posterior fossa lesion, and only occasionally one above the tentorium. With few exceptions the vertigo of central lesions is not severe. The dizziness may be constant or transitory; if constant it tends in time to increase in intensity as contrasted to peripheral vertigo which gradually subsides spontaneously. If vertigo is associated with loss of consciousness, diplopia, sensory or motor disturbances, incoordination of movement, persistent spontaneous nystagmus, blurred vision or visual field defect, a centrally located lesion is probable. The presence of cranial nerve paralysis, increased intracranial pressure and other positive evidence of neurologic deficit, together with the findings on encephalography and other aids in the neurologic study, will help establish the nature and site of the disease. Acute remittent vertigo is most often of peripheral origin.

In the case of the transient vertigo, often associated with change of position of the head or body, the problem is more difficult. In the elderly individual it is associated with cerebral arteriosclerosis and hypertension, and is attributed to circulatory insufficiency. In this type of vertigo the examination of the peripheral vestibular mechanism is often normal; some degree of deafness may be present but the audiometric studies will likely show the graph of presbyacusis or acoustic trauma.

Sudden violent vertigo of central origin is due to vascular occlusion of a major cerebral vessel. The symptomatology of thrombosis of the posterior inferior cerebellar artery consists of an acute vertiginous crisis accompanied by dysarthria, laryngeal paralysis, sensory disturbances of the face, loss of pain and temperature appreciation on the opposite side of the body, cerebellar ataxia, and Horner's sign. In a young person severe persistent vertigo, unassociated with auditory symptoms, is suggestive of multiple sclerosis involving the brain stem. The syndrome described by Bruno—paroxysmal vertigo, headache and vomiting, all on change of position of the head—is due to a lesion in the region of the fourth ventricle. Patients with this syndrome exhibit a head splinting, and they attempt to move their body and head as a unit.

Sir Charles Symonds[5] has written on some of the characteristics of vertigo of central origin. He states that lesions of the vestibular nuclei and their connections in the brain stem are distinguished by associated damage to the neighboring nuclei and tracts and by the tempo of the lesion. In the case of the acute lesion such as a vascular occlusion, the severe initial symptoms are followed by slow incomplete recovery but the nystagmus persists. In labyrinthine disease the nystagmus is absent except during vertigo.

Symonds also states that acute vertigo is rare in cerebellar disease. Usually chronic persistent vertigo with incoordination is present. The midline cerebellar lesions present an ataxic gait with a continuous sense of unsteadiness. Increased intracranial pressure, especially from infratentorial lesions, may cause vertigo of the paroxysmal type due to pressure on the blood supply to the vestibular nuclei.

The symptoms of indefinite or vague vertigo in the adult patient may be of systemic origin (Fig. 2). The diagnosis is based on the findings of the general physical examination.

NYSTAGMUS

The presence of spontaneous nystagmus, or induced vestibular nystagmus of abnormal types, is a significant clue in the diagnosis of vertigo of central origin, especially in posterior fossa lesions. Spontaneous nystagmus due to a peripheral lesion is intense and limited in duration to a few weeks by compensatory mechanisms; if the nystagmus is

mild and prolonged beyond that time a central lesion should be suspected. Nystagmus without vertigo is of ocular, cerebellar or brain stem origin. Vertical oblique nystagmus indicates a central lesion, usually in the cerebellum or in the brain stem. Spontaneous falling in the direction of the fast component of the nystagmus is indicative of central origin; the opposite is true of peripheral disease. A spontaneous nystagmus to one side, together with a non-reactive labyrinth on the same side is suggestive of an intracranial lesion. A non responsive vestibular test in the presence of good hearing is indicative of centrally placed lesion. The tests for optokinetic nystagmus induced by rotating drum of Barany are of value in the diagnosis of intracranial lesions. Cawthorne[1] and his associates have shown that this test is of localizing value not only in cortical lesions in the region of the supramarginal and angular gyri, but also in "organic lesions involving the optokinetic pathways at lower levels within the brain stem, in particular intramedullary neoplasm and disseminated sclerosis".

The intricate network of connections of the vestibular centers with the eye muscle nuclei, the cortico and cerebello-vestibular pathways, and the vestibulospinal tract have, in general, been proved experimentally, and the clinical characteristics of irritative or destructive lesions involving these structures can be recognized. Crosby[6] writes, "The fact that nystagmus is being elicited from a central vestibular rather than a peripheral lesion is determined by noting the accompanying signs or symptoms. For example, the vertical nystagmus elicitable from either superior vestibular nucleus may be accompanied by a facial weakness since the facial root passes along the medial side of this nucleus as it descends toward its level of emergence from the brain, or by loss of sweating on the same side of the face since the brain tract, the lateral reticulo-spinal tract, related to such sweating lies not far ventral to the superior vestibular nucleus. With involvements of the lateral vestibular nucleus producing destruction of the ventrolateral vestibulo-spinal tract, the patient will fall away from the side of the lesion, although in section of the vestibular root he falls toward the side of the lesion."

Fig. 2

SYSTEMIC CAUSES OF VERTIGO

Stokes—Adams Syndrome and Other Cardiac Arrhythmias	Air Embolism
Hypersensitive Carotid Sinus Reflex	Allergy
Arterial Hypertension and Hypotension	Hyperventilation Syndrome
Polycythemia Vera, Purpura, Anemia, Leukemia	Drug Intoxication
Cerebral Arteriosclerosis	Foci of Infection
Diabetes, Gout, Hypothyroidism, Menopause	Anxiety—Tension State

MULTIPLE SCLEROSIS

Vertigo in multiple sclerosis is transient and evanescent, but is said to be initially severe in 7% of the cases. In a series studied by Phillips[7] vertigo was found to occur in 35% of the patients. The otologic symptoms of deafness and tinnitus are occasionally present. The diagnosis is based on the major neurologic signs of disseminated sclerosis indicating involvement of various parts of the central nervous system. In the early stages of the disease the diagnosis may be overlooked if vertigo, nystagmus, and disturbance of gait and balance are prominent symptoms. The progressive development of pyramidal tract signs, tremor, sensory disturbances, and the distinctive ocular manifestations enables a definite diagnosis.

CEREBELLO-PONTINE ANGLE LESION

Acoustic neurofibromata represent 7-10% of all brain tumors, and are an ever present diagnostic possibility when deafness and vertigo are symptoms. The syndrome of the angle lesion is well established: early loss of cochlear and vestibular function, loss of corneal sensation, nystagmus, headache, and later, facial paresis, signs of increased intracranial pressure, and x-ray evidence of bone erosion. The loss of hearing is of the perceptive type without loudness recruitment.

Acute vertigo is an unusual symptom in angle tumors. In a series of 150 cases Brown[8] found 35% of his patients with a complaint of dizziness, lightheadedness, or postural unbalance. In 11% of the cases true vertiginous symptoms were reported, but in only 3 out of 150 patients was the diagnosis of Meniere's disease considered. The characteristic neurologic findings definitely pointed to the correct diagnosis.

EPILEPSY

Vertigo constituting an introductory aura in epilepsy has been described in as many as 20% of

seizure cases. Loss of consciousness, which is rarely seen in labyrinthine vertigo, is the significant factor. The vertigo, of course, is not present after the return of consciousness. The history and electroencephalographic report decide the diagnosis. In this regard mention can be made of an article by Pederson and Jepsen[9] who described cases of paroxysmal vertigo as an epileptic aura, but without seizures. Some other characteristic type of epileptic seizure developed at a later date. The cochlear function was normal in all cases.

TUMORS

The symptom of vertigo originating from tumors of the posterior fossa is fairly common. In a series of 158 patients with cerebellar tumor, Grant[10] found vertigo present in 70 cases. The vertigo in this situation is chronic, progressive and persistent and associated with nystagmus, incoordination of movement, ataxia and headache. Vertigo of cerebellar origin is most likely in acute lesions as thrombosis of the posterior cerebellar artery or cerebellar tumors which compress or invade the vestibular nuclei. The differentiation of vertigo of an otogenic cerebellar abscess from labyrinthitis is most difficult. The vertigo of tumors of the fourth ventricle can be sudden in onset on change of position of the head. Vertigo from brain stem lesions is diagnosable by the focal signs of the area involved. The task of identifying temporal lobe tumors has been assisted by the method of caloric testing advocated by Hallpike and his associates and by tests for auditory discrimination. Bilateral loss of labyrinthine response is said to indicate mid brain tumors.

VASCULAR DISEASE

The importance of vertigo in diagnosing vascular disease of the posterior fossa cannot be over emphasized. Current advances in knowledge have made it possible to localize vascular lesions within the vestibular nuclei themselves. The lesions above or below the entry of the eighth nerve present different clinical manifestations, recognized by neurologic, audiometric and caloric disturbances. The concept of intermittent insufficiency of the vertebral-basilar arterial system and thrombosis of the basilar artery is less well known.[11] This syndrome is characterized by episodic attack of visual dimness, weakness of the limbs, dysarthria, dysphagia, diplopia and vertigo. Between attacks the patient is well and the neurological examination is negative. The significance of these attacks lies in the recognition of these premonitory symptoms, however mild, as a warning of a possible future basilar artery thrombosis, and appropriate therapy instituted. A single attack may be diagnostic if several of the symptoms of the syndrome are present at the same time. Usually, however, the pattern of periodic return of one or more symptoms over a period of time suggests the correct nature of the disease.

The tendency in the case of temporary, vague or indefinite remittent vertigo, is to localize the disturbance in the benign atmosphere of the ear. Close questioning and careful examination may reveal other posterior fossa signs or symptoms or on the other hand, aural symptoms. The problem arises when the static labyrinth is involved without symptoms indicating a labyrinthine dysfunction, sometimes even with normal cochlear function and a normal response to caloric stimulation. In this stiuation the patient should be kept under observation and other characteristics of central or peripheral localization may develop to help define the diagnosis.

This concept provides some hope in the preventive treatment in early cerebrovascular disease. If the transient episodes of vertigo and vomiting can be localized as a central lesion before the stage of infarction, long term anticoagulant or other methods of treatment will provide an improved prognosis.

For many years Alvarez[12] has written of the importance of "little strokes". Among other symptoms, a sudden attack of dizziness, nausea and vomiting constitute an important part of this syndrome. A knowledge of many facets of the "small stroke" will save the patient much useless and misdirected treatment. Greater attention should be paid to the symptoms of momentary confusion, heaviness or numb feeling of the extremities, headache and defective memory in a patient who previously enjoyed good health of mind and body. Sometimes the intense upsetting symptom of vertigo overshadows other significant symptoms and these are overlooked by physician and patient.

ENCEPHALITIS—METAENCEPHALITIS

Acute encephalitis of the pons and cerebellum[13,14] is an unusual and interesting entity, of clinical importance in the differential diagnosis of neoplasms of the brain stem and acute multiple sclerosis. Brain stem encephalitis is a disease of unknown cause, often associated with upper respiratory infections. The clinical picture is that of neurologic signs and symptoms localizing the disease to the brain stem. The paretic disturbances of the cranial nerves from

the third to the twelfth are transient. Vertiginous symptoms are present in over half of the cases. The benign course of the disease and favorable outcome confirm the diagnosis.

EPIDEMIC PARALYTIC VERTIGO

Epidemic paralytic vertigo or Gerlier's disease is a rare entity. It consists of paroxysmal attacks of severe vertigo associated with flaccid paralysis, ptosis, diplopia, amblyopia and dysphagia. The attacks last about ten minutes and return daily.

TRAUMA

The evaluation of vertigo due to cerebral trauma is often an interesting and complex problem. Skull fractures extending into the temporal bone are accompanied by the salient sign and symptoms of craniocerebral trauma plus tinnitus, vertigo and deafness. Partial permanent deafness is said to occur in about 50% of patients with severe head injuries.[15] The evaluation of vertigo in cases of cerebral and labyrinthine concussion and the post concussional syndrome is more difficult. It is of variable severity, with headache, and often postural in type. If the test for postural vertigo and positional nystagmus is positive a definite diagnosis of organic disease can be made.

TREATMENT

The treatment of vertigo of central origin depends on accurate diagnosis, and is based on the management of the cause of the symptom. The role of anticoagulant and enzymic therapy in cerebrovascular disease is still under study.[16] There is little doubt that the results reported by some authors have been encouraging. The institution of rest and sedation is still fundamental. Dimenhydrinate and diphenhydramine are useful drugs in acute vertigo, especially when given intramuscularly or by rectum. The use of vasodilation agents in the treatment of vertigo of all types has been successful in the experience of many clinicians. Pool[17] has recently shown that the larger cerebral arteries especially the basal arteries, are capable of vasospasm and vasodilatation. Topical application of procaine and papaverine were effective in producing vasodilatation, although the intracarotid injection of these drugs were ineffective. It has been said that the good results of vasodilating therapy depend on prevention of vascular spasm rather than the production of vasodilatation, and the breaking up of the vasospastic reflex. On the other hand some investigators[18] contend that the cerebral arteries cannot contract, and the mechanism of cerebral stroke is thrombosis, embolism, hemorrhage or vascular insufficiency. Hypotension induced by a number of different conditions apparently is the important factor in producing cerebral vascular insufficiency in the presence of narrowed vessels. With normal blood pressure adequate capillary pressure can be maintained or collateral blood flow can be established to overcome the local ischemic changes. It is a general rule in the treatment of vertigo to combine methods of therapy rather than trying one remedy after another.

Bibliography

1. Cawthorne, T., Dix, M. R., Hallpike, C. S., and Hood, J. D.: The Investigation of Vestibular Function. Brit. Med. Bull. 12:131, May 1956.
2. Cawthorne, T.: Positional Nystagmus. Ann. Otol., Rhinol. and Laryngol. 63:481, June 1954.
3. Carmicheal, E. A., Dix, M. B., and Hallpike, C. S.: Pathology, Symptomatology and Diagnosis of Organic Affections of the Eighth Nerve System. Brit. Med. Bull. 12:146, May 1956.
4. Lindsay, J. R. and Hemenway, W. G.: Postural Vertigo Due to Unilateral Sudden Partial Loss of Vestibular Function. Ann. Otol., Rhinol., and Laryngol. 65:692, Sept. 1956.
5. Symonds, Charles: The Significance of Vertigo in Neurological Diagnosis. J. Laryng. and Otol. 66: 295, July 1952.
6. Crosby, E. C.: Nystagmus as a Sign of Central Nervous System Involvement. Ann. Otol., Rhinol., and Laryngol. 62:1117, Dec. 1953.
7. Phillips, J. W.: Otologic Symptoms of Multiple Sclerosis. Laryngoscope 62:271, March, 1952.
8. Brown, H. A., Love, J. G., Adams, N. D.: Otologic Evaluation of Unilateral Acoustic Neurofibromata. Laryngoscope 62:250, Mar., 1952.
9. Pederson, E., and Jepsen, O.: Epileptic Vertigo. Acta. Psychiat, et. Neurol. Scandinav. Supply. 108:306-310, 1956.
10. Grant, F. C., Webster, J. E. and Weinberger, L. M.: Unusual Symptomatology with Tumors of the Cerebellum Based on 158 Verified Cases. Am. J. Med. Sci. 202:313, 1941.
11. Seikert, R. G., and Millikan, C. H.: The Concept of Early Diagnosis in Strokes. Arch. Int. Med. 101: 872, May, 1958.
12. Alvarez, W. C.: Cerebral Arteriosclerosis with Small Commonly Unrecognized Apoplexies. Geriatrics 1:189, 1946.
13. Kavanaugh, G. J. and Goldstein, N. P.: Acute Idiopathic Metaencephalitis. Proc. Staff. Mayo Clinic 33:53, February 5, 1958.

14. Moller, Folke.: Brain Stem Encephalitis and Epidemic Vertigo. Acta. Psychiat. et. Neurol. Scandinav. 31:107-115, 1956.

15. Schuknecht, H. F. and Davison, R. C.: Deafness and Vertigo from Head Injury. Arch. Otolaryng. 63: 513, May 1956.

16. Sussman, B. J. and Fitch, T. S. P.: Thrombolysis with Fibrinolysin in Cerebral Arterial Occlusion. J.A.M.A. 167:1705, August 2, 1958.

17. Pool, J. L., Jacobson, S., and Fletcher, T. A.: Cerebral Vasospasm—Clinical and Experimental Evidence. J.A.M.A. 167:1599, July 26, 1958.

18. Rothenberg, S. F. and Corday, E.: Etiology of the Transient Cerebral Stroke. J.A.M.A. 164:2005, August 31, 1957.

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United Cerebral Palsy

A stigma of guilt is erroneously associated with cerebral palsy. Actually, cerebral palsy is a general term for a group of disorders caused by injury to certain brain cells. It is neither contagious nor hereditary. Although all the causes are not yet known, it is known that it can result from faulty development of brain cells before birth, physical injury, prolonged high fever and other causes later in life.

The most common effects are an awkward, involuntary gait, lack of balance, gutteral speech and grimacing. It may also be associated with sight and hearing impairments, reasoning power and other disturbances reflecting brain damage.

Through organizational efforts of interested persons and parents of cerebral palsied children, the United Cerebral Palsy of Richmond was formed in 1953 to provide more and better services for the cerebral palsied. Chief efforts are directed toward support of the Occupational Curative Workshop, an out-patient treatment center for physically handicapped children. From a meager start, it now provides daily treatment for 55 children, consisting of occupational and physio-therapy and speech therapy. Services of two full time therapists are required. A speech teacher is employed as 60% of the children have speech difficulties.

Headquarters of the Workshop and United Cerebral Palsy of Richmond are located at 201 West Brookland Park Boulevard. These quarters, a former bank building, were occupied in 1956, in a move from the Mayo Memorial Church basement.

The first Wednesday of each month a diagnostic and treatment planning clinic is held for cerebral palsied at the Workshop. Patients come from as far away as Emporia. The clinic is directed by Dr. Earnest B. Carpenter, orthopedist, and Dr. Gayle G. Arnold, pediatrician, local doctors who serve for a nominal fee. In the four years of operation 125 children have been seen at the Clinic at approximately 3-month intervals. Space is also provided in the building for the Mayo School for Orthopedic Children. In 1941 the Workshop asked the Richmond School Board for a teacher for 8 cerebral palsied children. At present there are 4 teachers and 38 children, 29 of which are cerebral palsied, attending junior primary through high school. Diplomas are awarded by Thomas Jefferson High School.

During May the annual fund compaign is conducted. The goal this year is $35,000. The bulk of funds—75%—remains here for state and local services. The remainder helps to finance the national program of research, education and training. Of the $1.7 million raised nationally last year, over $500,000 went to research grants for hospitals and universities.

Chronic Idiopathic Jaundice Dubin-Johnson Disease

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IN 1954 Dubin and Johnson described a new entity under the title of Chronic Idiopathic Jaundice with Unidentified Pigment In Liver Cells.[1] They present strong clinical, laboratory and histochemical evidence that this condition is distinct from Gilbert's Disease (constitutional hyperbilirubinemia), chronic post-viral hepatitis and obstructive jaundice, albeit there are points of similarity.

The Dubin-Johnson disease is characterized by chronic jaundice, which may be intermittent and aggravated by intercurrent diseases. Vague abdominal pain, fatigue, dark urine and slight hepatomegaly are usually present. The diagnosis is easily established by needle biopsy of the liver. The dark brown or black character of the gross specimen is so striking that to the aware observer this is in itself nearly diagnostic. Histologically the hepatic cells contain coarse brown granules which are remarkably localized to the cells of the central region of the lobule. There is evidence that the pigment belongs to the lipofuscin family. No other constant histologic change is noted in the liver.

Dubin believes that the disease is an inborn error of metabolism whereby the prime defect lies in the inability of the liver to adequately excrete certain substances. He cites the following points of evidence for this thesis: "(1) the liver can conjugate indirect bilirubin with glucuronic acid but presumably has difficulty in excreting the conjugated bilirubin, hence the accumulation of direct reacting bilirubin in the serum and the spilling over of this water-soluble bilirubin in the urine; (2) the increased amount of urobilinogen in the urine may similarly reflect inadequate hepatic excretion; (3) nonvisualization of the gallbladder on cholecystography is probably due to inability of the liver cells to excrete the dye; (4) retention of bromsulphalein is again evidence of insufficient excretion; (5) the accumulation of pigment (lipofuscin) in the liver cells probably is also the result of inadequate hepatic excretion."[2]

Dubin's recent review included fifty cases which were culled from the files of the Registry of Hepatic Pathology and the literature, plus four cases published after his article was prepared for publication. All cases recorded to date have been in Caucasians, except for one which occurred in a Negro. The prognosis is good. No treatment is necessary.

CASE REPORT

A 37 year old Korean civil servant entered the Alexandria Hospital with the chief complaint of jaundice. He had had recurrent bouts of jaundice characterized by "yellow urine" and jaundice sclerae since he was 23 years of age. He also complained of "discomfort" in the right hypochondrium. About two months prior to admission he developed anorexia and generalized malaise.

Physical Examination: Pulse 84. Temperature 98.4. Respirations 20. Blood Pressure 110/75. Examination was negative except for slight icterus of the sclerae and slight tenderness to deep palpation over the right hypochondrium. Liver and spleen were not palpable.

Past History: Amebic dysentery occurred at age 9 with recurrent attacks each summer for 6 years. He had malaria as a child. When he was 23 years old he had his first recognizable bout of jaundice and was hospitalized in Korea. Following this illness he believed that his urine persisted in being darker than before and also from this time on he noticed that he tired easily.

Family History: Father and mother alive and well at age 60. Of five siblings, one brother has been jaundiced for 10 years. The patient is the father of two healthy children.

Hospital Course and Treatment: His oral temperature varied between 97° and 98.6° F. throughout his hospital stay of six days. The admission hemogram showed 15.0 Gms. of hemoglobin and a hematocrit of 46%. WBC was 7,400 with 46% segmented forms, 5% band forms, 47% lymphocytes and 2% eosinophils. The urine was dark amber but showed no protein nor significant formed elements.

Serum cholesterol 199 mg/100 ml; Cholesterol esters 167 mg/100 ml. Icterus index 40 units; Direct reaction bilirubin 5.0 mg/100 ml; Indirect reaction bilirubin 4.0 mg/100 ml. Cephalin flocculation was 3+ after 24 hours and 4+ after 48 hours. Thymol turbidity was 8.3 units. Alkaline phosphatase 4.4 Bodansky units. Total serum protein 7.0 Gms/100 ml. Cholesterol 166 mg/100 ml. There was retention of 17% bromsulphalein 45 minutes after a test dose of 5 mg/kilo of body weight. Prothrombin consumption test was normal. Serum albumin 3.2 Gms/100 ml. Serum globulin 3.8 Gms/100 ml. The electrophoretic pattern (Fig. 1) was not unusual although depicted a slight increase of gamma

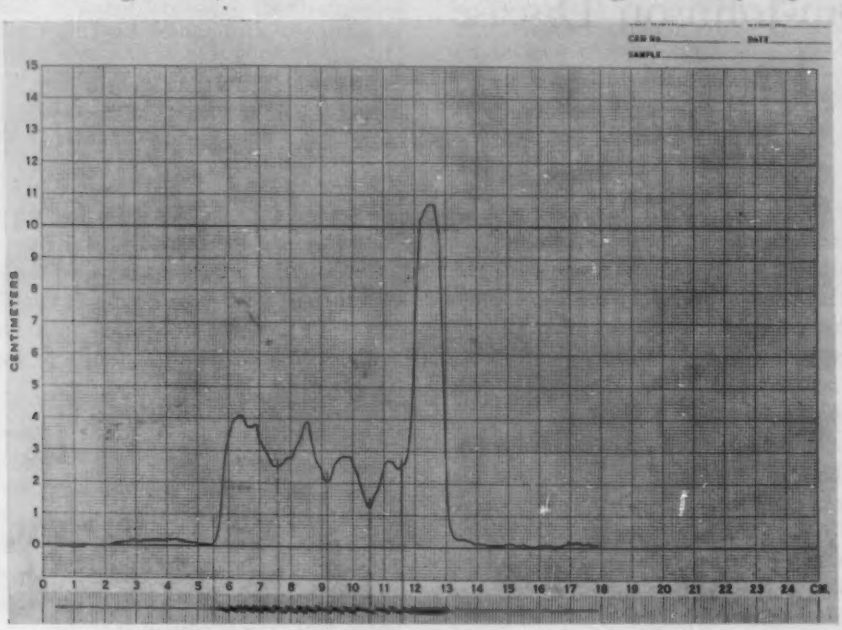

Fig. 1

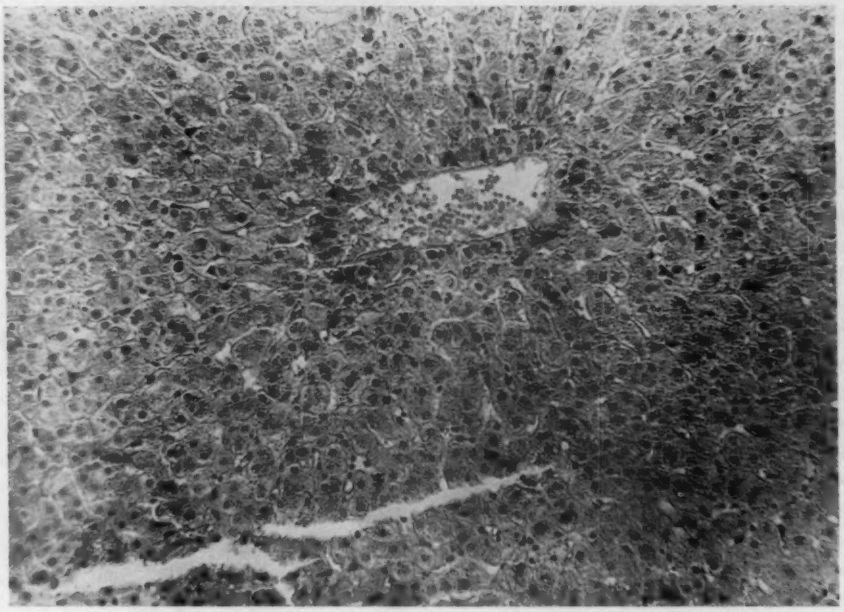

Fig. 2

globulin. A 24 hours urine specimen contained 0.01 mg. of urobilinogen per 100 ml. A stool specimen showed hookworm ova and Trichocephalus trichiuris ova. Prothrombin activity 60% (control 11 seconds; patient 13 seconds). The chest x-ray was reported as "normal". After it was determined that the bleeding time, clotting time and clot retraction times were within normal limits, a Vim-Silverman needle biopsy of the liver was performed. Grossly, the liver was dark brownish black. Microscopically, there was intense pigmentation of the hepatic cells with coarse dark brown pigment (Fig. 2). The pigment was localized to the centrolobular region and was virtually absent from the Kupffer cells (Fig. 3). The pigment did not give the Prussian Blue reaction for iron. When the tissue was subjected to digestion with saliva prior to staining with the periodic acid-Schiff stain, many of the granules were positive. Oil red-O, acid fast, hemofuscin, hematoidin and bile stains* were negative.

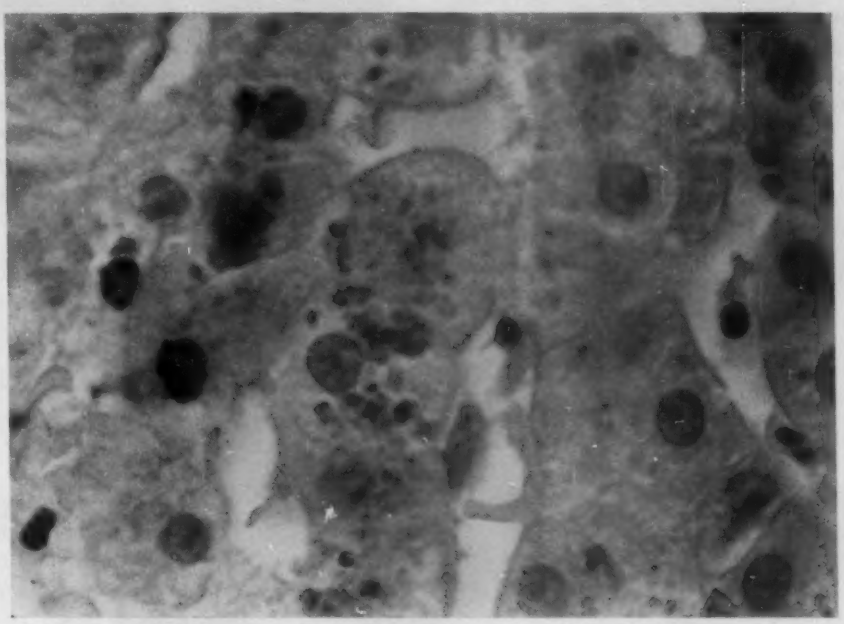

Fig. 3

SUMMARY

1. A case of Chronic Idiopathic Jaundice (Dubin-Johnson Disease) is reported.
2. The first case of Chronic Idiopathic Jaundice in an Oriental is reported.

Bibliography

1. Dubin, I. N. and Johnson, F. B.: Chronic Idiopathic Jaundice with Unidentified Pigment in Liver Cells. Medicine 33: 155, 1954.
2. Dubin, I. N.: Chronic Idiopathic Jaundice. Am. J. Med. 24: 268, 1958.

Alexandria Hospital
Alexandria, Virginia

* Bile stain was done by Miss Mary Jo Hall, Department of Histochemistry, Naval Medical School, Bethesda, Maryland. The staining procedure was devised by Miss Hall and will be published by her later.

Urinary Bladder Harboring Mechanical Pencil

FREDERICK M. JACOBS, M.D.
W. BANKS HUFF, M.D.
P. A. RICHARDS, M.D.
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THE AUTHORS of this report recently observed an eighteen year old girl whose urinary bladder had retained a mechanical pencil for a period of approximately three years.

The patient, an attractive, apparently well adjusted, intelligent, white, high school student, first sought medical advise because of severe burning, frequency, and urgency of urination of several weeks duration. The history was otherwise vague and uninformative. The general examination was essentially negative except for the vaginal findings. Projecting into the anterior wall of the vagina near the cervix, for a distance of about 1 cm, was a hard mechanical object, resembling the point end of a mechanical pencil. The object was firmly fixed and could scarcely be moved in any direction. The urinalysis showed innumerable WBC and 8-10/RBC per hpf.

The patient was admitted to the hospital on December 8, 1958, where an intravenous urogram showed a large avoid calcific density within the urinary bladder, measuring 3½ x 2½ inches, and having a somewhat laminated appearance. Lying diagonally within this calcification was a radiolucent line with a metallic arrow point at its distal end and a round metallic density at its proximal end. There was moderate calyectasis and pyelectasis on both sides.

Fig. 1. Plain x-ray of abdomen.

On December 11, 1958, under general anesthesia, the foreign body encased within a large calcium stone was removed through a suprapubic incision. The bladder wall was about four times its usual thickness and there was intense generalized hyperemia of the mucous membrane. There was a small sinus leading from the floor of the bladder into the vaginal fornix, which had been produced by the eroding point of the metallic pencil.

The bladder was closed in two layers with fine chromic catgut and the abdominal incision was

From The Shenandoah Hospital, Roanoke.

closed in layers in a routine way. Bladder drainage was provided by a small urethral catheter brought out through the superior end of the abdominal incision. Convalescence was uneventful and the patient was discharged from the hospital on December 23, 1958, twelve days after the operation with no complaints and in good general condition.

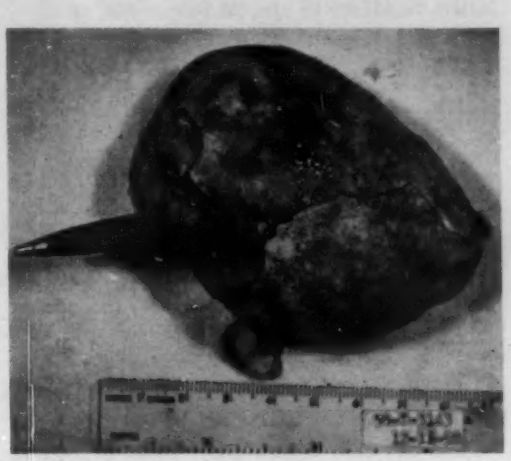

Fig. 2. The surgical specimen.

The pathologic report by Dr. Daniel Leavitt reads: "The specimen consists of a bladder calculus, measuring 9 x 6 x 6 cm. Projecting through it is a mechanical pencil, 11 cm in length."

It is a remarkable fact that this child was able to tolerate a mechanical pencil in her urinary bladder for such a long time. She admitted inserting the pencil through the urethra into the bladder when she was fourteen years old, where it became inaccessible and could not be removed. She withheld this information from her parents deliberately and successfully, until intensifying, unrelenting urinary symptoms compelled her to seek help, more than three years after execution of her singular adventure into the beguiling mysteries of genito-urinary physiology.

Subsequent observations by one of us* indicate that the young lady is conducting herself in a perfectly normal manner in her social and family relationships, and she is getting along well in school.

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* P. A. Richards, M.D.

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Oral Treatment for Ringworm

An antibiotic which can be taken by mouth has been found to be effective in the treatment of ringworm, according to two Florida dermatologists. In a preliminary report in the March Archives of Dermatology, published by the American Medical Association, the doctors treated 31 patients with various types of ringworm with griseofulvin.

The drug is called griseofulvin for the species of Penicillium from which it is made. Pencillin is made from another species—notatum. Griseofulvin earlier was found effective against fungus infections in plants.

When griseofulvin was taken daily by mouth ringworm of the body and scalp cleared within one to three weeks. Onychomycosis (ringworm of the nails) cleared within three to four months.

This success suggests that "the systemic treatment of superficial fungus infections in man at last seems a near reality." There has been no standard treatment for fungus infections, but it has usually included keeping the area dry, and applying various chemicals.

Adverse side effects from griseofulvin appear to be minimal in man. However, animal experiments indicate that griseofulvin affects the blood and the doctors recommended that regular blood cell counts be made during prolonged use of the drug in humans.

The duration of treatment required for the various fungi varies, apparently depending on the time required for normal replacement of the infected tissues.

Fungus infections of various origin showed "a uniformly favorable response to oral therapy with griseofulvin." Even infections of 60 years duration responded. However, the chances of relapse or recurrence are still not known.

Drs. Harvey Blank and Frank J. Roth of the University of Miami School of Medicine, Miami, Fla., and the Veterans Administration Hospital, Coral Gables, Fla., were the authors.

"Physician Know Thy Schools"

JOHN S. MORRIS, Jr., M.D.
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WHILE the public school system has never had so much to offer so many in the ways of health education, it has been appalling to find that many physicians know so little of the school system in their own communities.

Twenty per cent of the population in America today spend approximately half their waking hours in school. Physicians have sometimes been heard to be critical of the schools without thorough understanding of what they speak.

Any physician seeing children patients should know the answers to the following questions concerning the school health program in his own locality.

1. Do all pupils get annual physical examinations?
2. How often is the child's vision checked in school?
3. How often is the child's hearing checked in school?
4. What kind of a school lunch does the child eat? Is it a "sandwich type" or is it a well balanced meal?
5. Can the school force a child to take D.P.T. or polio immunizations to attend school?
6. On the average how many children are in each school room? Are classrooms overcrowded?

There are many similar questions, the answers to which all well informed physicians should know in their dealings with their young patients.

"The major purpose of a school health program is to maintain, improve, and promote the health of the school child. The program should include adequate supervision: of the physical, mental, emotional and social aspects of school life, as well as assistance in planning the course content and instruction in health, education, recreation and physical education."[1]

In the Report of the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association,[2] school health services are defined as procedures established:

1. "To appraise the health status of pupils and school personnel.
2. To counsel pupils, parents, and others concerning appraisal findings.
3. To encourage the correction of remediable defects.
4. To assist in the identification and education of handicapped children.
5. To help prevent and control disease.
6. To provide emergency service for injury or sudden sickness."

THE ANNUAL SCHOOL PHYSICAL EXAMINATION

Much has been written about the superiority of the family physician or pediatrician examining the school child since he knows the family history and can do this far better than the school physician who by necessity has to do mass examinations. With these views I heartily agree. The family physician must assume a more active part in school health and primarily in the school health examination since it is through him that the proper balance between private medical enterprise and state regulation can be maintained.[3] However, until more private physicians are more active in educating families as to the value of "well-child" examinations, I feel the mass screening by the school physician still has a very definite place in the schools so long as the defects found are followed up and treated.

In 1950 a questionnaire by the A.M.A. revealed that 50% of such examinations were done by private physicians across the nation. In Philadelphia in 1954 less than 1.6% of one group of children were examined by their private physician and only .6% by their private dentist. Fischer states that in Pennsylvania in 1955 less than 3% of school health examinations were done privately in physicians offices.[4]

There has been a shift in recent years to the emphasis of a very good and thorough examination every three years rather than a more superficial one every year. This, indeed, has its points; however, in an organization that allows its annual examinations to become superficial, the triennial one will soon become superficial also.[5] Jacobziner of New York City recommends only two examinations during the elementary grades, one of newly admitted chil-

dren and another at the sixth grade.[6] He further strongly recommends two physical examinations during the high school years.

Those who oppose the idea of the mass examination state that before the children have been examined one can anticipate that in a group of 100 children, one will have a heart disorder, 20 will have visual disorders; 10 will have hearing impairments; 15 have nutritional defects; 10, growth problems; and 85 will have a dental disease.[7] Granted that this is probably so, the important object is finding *which* child has the particular problem and meeting with his family to urge its correction. Yankauer,[8] in his exhaustive study, found that "14% of the children examined in the second grade had new adverse conditions not present in the first grade examination. It is true that of these less than 4% had a condition for which he was not receiving medical care", but he states, "It is of interest to note in passing that all but one of the 9 children whose conditions were neither known nor under care might have been discovered by a simple screening inspection far less extensive than the 30 minute medical examination which was performed."

Nationally, at least one medical examination is required of each pupil while in school by 83% of all school systems, and 17% require from 8 to 14 annual examinations during their school life.[9]

Since so much in the recent literature has stressed the individual examination over the mass screening technique, it was felt that a survey to determine the actual number of children in the schools in Lynchburg who had been examined by their family doctors during the preceding year would be valuable in determining the need of continuing the annual examination. Schools were chosen to demonstrate a good cross section of the city on a socio-economic basis, and able, experienced nurses made the survey by interviewing each child. If a child had only received an immunization in the physician's office this was not counted as a visit. (See Table I)

It can be seen from this survey that a relatively few were seen by a physician in the lowest economic area and surprisingly, not a large number from the higher economic strata.

Children receive "check-ups" fairly regularly until they are 2 or 3 years of age and after that, in far too many cases, the pediatrician sees them only for an acute illness. In the writer's practice, it has been noted that "only" children are brought in for well-child routine examinations over a longer age span than children of large families. Many parents bring their children into the office just before school opens in the fall for "just a vaccination". Tactfully it is suggested that a fairly thorough "going over" is in order since on examination of the child's chart, it is often noted that he has not had a "well-child" examination for several years. However, too often the parents want only a vaccination since they cannot see the value of an examination of their well, healthy, and frisky youngster.

A growing family at present is a very costly undertaking, especially if plans are being made for future college educations. When a mother sees a child very active, eating well, full of life, and then analyzes the clothing bill and the enormous food bill, she frequently does not understand the value of and the necessity for routine examinations.

THE LYNCHBURG SCHOOL HEALTH PROGRAM

At this point let us consider the Lynchburg, Virginia, school system and its health services as a representative city of 50,000 population.

Upon the child's enrollment a health history is obtained from the parent by the teacher and all immunizations, etc., are entered on the child's health card. These cards are examined twice a year by the nurse and if there is any unusual condition noted that child is called to the attention of the doctor, not at the time of the mass survey, but at another time when the child can be examined individually. Each child is weighed every six weeks by the teacher. Every child's vision is examined each year by the school nurse using the Snelling eye chart.

Every child's hearing is tested each year in kindergarten, and in the first and second grades by a "whispering test". Any child showing an abnormality

TABLE NO. 1

SURVEY OF CHILDREN IN SEVEN SCHOOLS IN LYNCHBURG, VIRGINIA, OF VARIOUS SOCIO-ECONOMIC LEVELS WHO HAD BEEN EXAMINED BY THEIR FAMILY PHYSICIAN WITHIN THE PAST 12 MONTHS

	Children Examined Within Past 12 Months by Family Physician	Total Number Children Interviewed in School	Per Cent Examined by Family Physician
School F.....	7 (grades 1-7)	200	3½%
School S.....	13 (grades 1-4)	253	5 %
School F H.....	111 (grades 1-7)	387	29 %
School M.....	30 (grades 3-6)	326	9 %
School W R.....	8 (grades 3-7)	191	4 %
School G R.....	44 (grades 3-7)	284	15½%
School B.....	8 (grades 3-7)	248	3 %

here is further checked by the nurse using an individual audiometer test. Any defects are referred to the family physician. Every child is examined in a group audiometer test in the third, fifth and seventh grades.

Each child in the elementary grades is seen three times a year, once by the school physician and twice by the nurse. The school physician spends 1½ hours of each school day of the school year in these examinations. These examinations, of course, are not as thorough as the 30 or 40 minute examinations that Yankauer describes in a study in Rochester[8] or of the 15 minutes required by Pennsylvania law.[10] In Lynchburg, in the school year 1957-58, of the 7,193 elementary children examined, 2,438 or 33% were found to have defects that would hinder the child from attaining his maximum learning capacity. Of these 2,438 children with defects, there were 2,552 defects found (several having multiple defects). In the annual follow-up survey it was noted that of the 2,552 defects found, 2,390 had been treated, a "treatment ratio" of 93%. ("Treated" simply means the family physician or dentist was consulted.) See Table No. 2. This compares favorably with 30% reported treated in Philadelphia.[11] a school nurse visits every home of a child discovered to have a defect and talks with one or both of the parents.

In addition to the 2,234 home visits the nurses made during the year, they went into the classrooms a total of 1,724 times to give talks on health to supplement the teachers' instruction. Health in Virginia is taught throughout the grades from kindergarten through the senior year of high school in classes geared to the pupil's increasing ability to understand. The Virginia State Department of Education specifies that a certain amount of classroom time in the different grades be devoted to the study of personal hygiene and nutrition. Text books are selected locally by a committee of teachers after extensive review.

The control of contagious diseases and first aid was of prime importance back in the early days of school health service. In the past school year (1957-58) first aid was rendered by the nurses 1,607 different times. Of the total of 9,512 students only 14 children were excluded by the nurses because of a contagious disease (not counting Tinea Capitis). Today, most contagious diseases are handled by the teachers. The nurses instruct the teachers in this area and all teachers are issued the Government pamphlet "What Every Teacher Should Know about the Physical Condition of Her Pupils."[12]

TABLE NO. 2

SUMMARY OF THE SCHOOL EXAMINATIONS IN LYNCHBURG, VIRGINIA, AND THE FOLLOW-UP RESULTS FOR THE SCHOOL YEAR 1957-58

Item	Total Number
Children Examined (elementary only)	7193
Number of children found with defects:	
Found	2438
Treated	2363
Number of defects:	
Found	2552
Treated	2390
Eyes:	
Found through school examinations	197
Found otherwise	28
Number given glasses	225
Ears:	
Hearing deficiency examinations	81
Examined by otologist	63
Diseased tonsils and adenoids:	
Found	132
Tonsils and adenoids removed	92
Children with diseased teeth (temporary and permanent):	
Found	3142
Seen and treated by dentist	2107
Skin and scalp diseases (not including tinea capitis):	
Found	10
Treated	10
Hearts (murmurs):	
Found	28
Referred to family physician	16

It is of interest to note here the New Haven Board of Health in 1950 officially stated,[7] "Measles, German measles, mumps and chicken pox must be allowed to occur in childhood rather than attempt prevention with the alternative of having them contracted in adolescence or adulthood. These diseases have no preventatives and adolescents and adults are being attacked in greater numbers and with greater severity. Therefore, many health authorities do not deem it advisable to exclude from school contacts of these diseases." Lynchburg still attempts to exclude all contagious diseases from its schools, but one must recognize the medical wisdom of the New Haven action.

THE COST OF THE MEDICAL SERVICES IN LYNCHBURG SCHOOLS

The costs to the tax payer for these medical and dental services are listed in Table 3. The total of

TABLE No. 3

COST OF THE HEALTH SERVICES OF THE LYNCHBURG, VIRGINIA, SCHOOL SYSTEM, SCHOOL YEAR 1957-58

Total number children in public schools	9,512
Salary and transportation of nurses—3 full time and 1 part time (Head nurse is half time, probation officer)	$12,154
School physician	2,250
School psychologist*	150
Total	$14,454
Approximate costs per child (less dental expense)	$1.52
School dentists (treatment of indigents only)	$5,590

*Consultation service in cooperation with the Psychology Department of a local college.

$14,454 divided among 9,512 students is not great considering that for each $1.52 expended per pupil that pupil received:

1. A physical examination by the school physician.
2. Two inspections by the nurse.
3. An average of six health talks by the nurse.
4. An examination of visual acuity.
5. An examination of hearing acuity.
6. A demonstration each year by the nurse on the correct way to brush teeth.

As will be noted in Table 3, 25% of the budget is for dental service. This is for actual dental treatment of the indigent child. This service is given those children who could not otherwise afford dental care. Table 4 is a break-down of this work.

TABLE No. 4

WORK PERFORMED BY THE DENTAL CLINICS FOR INDIGENT SCHOOL CHILDREN, LYNCHBURG, VIRGINIA, SCHOOL YEAR 1957-58

White Schools		
Dental work completed (number of children)		118
Amalgum filling	1149	
Cement filling	4	
Porcelain filling	110	
Cement base	840	
Extractions (temporary and permanent teeth)	192	
Nerves capped	119	
(Total white elementary school enrollment—4,411)		
Colored Schools		
Dental work completed (number of Children)		139
Amalgum filling	808	
Cement filling	165	
Porcelain filling	58	
Extractions (temporary and permanent teeth)	264	
Treatments	113	
Teeth cleaned	37	
Nerves capped	337	
(Total colored elementary school enrollment—1,734)		

A white dentist works two full afternoons each week of the school year in the white clinic and a colored dentist works two full afternoons each week of the school year in the colored clinic. Only elementary school children attend the dental clinic.

IMMUNIZATIONS

Virginia law requires the school child to be vaccinated against smallpox every five years. No other immunization is required. However, D.P.T. and polio are strongly urged by the schools. In Lynchburg the City Health Department nurses hold immunization clinics in each of the schools once a year and give smallpox, D.P.T. and polio immunizations to all children whose parents have given written permission.

PSYCHOLOGY SERVICES

Lynchburg is fortunate in having the professor of psychology of one of our local colleges act as a consultant and perform special tests on selected children in our system. Advanced college students under the professor's direct supervision do some of the testing. Only problem children and a few children selected by the principals for special study can be so tested. Approximately one half day a week is devoted to this. It is hoped that in the future Lynchburg might have a full time psychologist.

SPEECH AND HEARING SERVICES

A position for a speech therapist has been created and the salary appropriated but to date no qualified person has been obtained.

THE CONTROL OF AN EPIDEMIC OF TINEA CAPITIS

In the spring of 1957 an increasingly large number of cases of tinea capitis was noted among school children. These were predominantly in the Negro children which was contrary to the Hagerstown, Maryland,[13] epidemic of 1945 which was predominantly white. After a conference between school authorities and the City Health Department a Woods Light was purchased and a campaign for the eradication of this plague was begun. Every elementary child in the school system was examined. Since this condition usually disappears with puberty, the high schools were not examined. It should be borne in mind that this examination had to be done in complete darkness, not an easy job to do in some schools. Of the 7,300 children examined, 172 were found to have tinea capitis. A meeting was called of all parents of the affected children and the entire problem was discussed by the Director of the Department of Health. The parents saw the conditions demonstrated under the Woods Light and asked any questions that they wished. The treatment was discussed and each parent was given a printed sheet of instructions. The Health Department set up extra

dermatology clinics to handle these cases and supplied the medication. The majority of the infected children were indigent so they were treated through the local health department out patient clinic. The colored school nurse worked during part of the summer rounding these children up and referring them into the clinic. The school board passed a ruling that no child would be allowed in school with the disease unless his head was shaved and he wore the prescribed cap. When school opened September, 1958, nine months later, all children had been completely cleared except nine who had to return wearing the cap and continue treatment. Only four were not allowed in school. These four were from families who were completely uncooperative. At present, the colored children have to be examined by the Woods Light twice a year; an additional burden on the overworked school nurses.

The writer feels the work performed by the school nurses in the tinea capitis program alone deserves a great deal of credit.

THE SCHOOL LUNCH PROGRAM

The school lunch program in Virginia has evolved greatly in the past 20 years. To obtain federal aid, in monetary as well as surplus farm products, the school has to comply with the minimum standards set forth by the Bureau of Human Nutrition and Home Economics, U. S. Department of Agriculture.[14] The term "lunch" is a misnomer. It is a complete meal planned to meet one-third of a pupil's daily food needs. The primary grade child is given smaller amounts; the upper grade child larger portions. The meal includes:

1/2 pint whole milk.
2 ounces of meat, fish, poultry, cheese; or 1/2 cup cooked dry peas, bean or soybeans; or 1/4 cup peanut butter; or 1 egg.
3/4 cup vegetables or fruit, raw or cooked.
1 portion bread, muffins, or hot breads made of whole grain or enriched flour.
2 teaspoons of butter or fortified margarine.

The food is served hot and the milk chilled. If your young patient is eating the "school lunch" rest assured he is getting at least one good well balanced meal a day. This lunch was available to pupils for only $.25 per day in Lynchburg for the school year 1957-58.

THE SCHOOL BUILDINGS FOR HEALTHY LEARNING

Another point of the health program is the proper construction of new schools. Much space in the joint committee's report[15] is devoted to the proper design of a modern school as to ventilation, lighting, toilet facilities, etc. In the State of Virginia the legislature in 1954 passed a law requiring all school buildings in Virginia to conform to "The School Planning Manual" drawn up by the School Building Service of the State of Virginia. The manual was revised in 1957. This work has been so successful that many states are in the process of copying parts of it and it has been studied in many foreign lands. It specifies that no school should have less than four acres of land plus 1 acre for each 100 pupils. This, of course, insures adequate play and healthful recreational facilities for the students.

Many aspects of construction such as toilet facilities are "spelled out". Each school has to have 1 commode per 30 girls, 1 commode per 60 boys, 1 urinal per 30 boys and 1 lavatory per each 50 boys and girls.

Adequate lighting has to be specified in the plans before the plans are put out to bid. The ventilation in order to be adequate, must change 100% of the air three times an hour. The cafeteria has to have a certain number of square feet per child. The number of drinking fountains is specified per 100 pupils. Also the heights of the fountains from the floor are definitely specified.

A clinic of specified size with running water has to be incorporated in each new school building. All of these requirements and many more have to be met in the plans and specifications of each new school in Virginia. The plans are then carefully reviewed by the architects of the State Board of Education and have to be passed by them before the building can be put out to bid. Virginia should be proud of this law.

SUMMARY

1. Physicians seeing children patients should acquaint themselves with their local school health program to better understand their patients' problems.
2. The aims of school health services are summarized.
3. The annual school physical examination is discussed with a study of the number of Lynchburg school children who are seen annually by their family physician. The number is too small.
4. The Lynchburg School Health program is presented.
   A. Frequency of examinations

B. Cost of health services

C. Indigent dental program

D. Control of an epidemic of tinea capitis in Lynchburg schools

E. School lunch program

5. Virginia law regulating building construction to guarantee healthful school living is discussed.

BIBLIOGRAPHY

1. Report of the Committee on School Health, American Academy of Pediatrics. Pediatrics 13: 1, page 74, Jan., 1954.
2. Wilson, Charles C.: School Health Services, National Education Association 1953, Foreword.
3. Maclachlan, Kenneth L.: School Health and The Family Physician. New England J. M. 253: 767-768, Nov. 3, 1955.
4. Fischer Carl C.: The Role of the Private Physician in School Health. The Pennsylvania M. J. 59: 9, 1063, Sept., 1956.
5. Van Kleek, Edwin R.: The Medical Examination in School Health Service. Connecticut M. J. 16:851, July, 1952.
6. Jacobziner, Harold: Health Services for the School-Age Child—A New Approach. J.A.M.A. 165: Nov. 1957.
7. Shaffer, Thomas E.: School Health Is a Community Undertaking. Ohio State M. J. 53: 5, May, 1957.
8. Yankauer, Alfred: A Study of Periodic School Medical Examinations. A. J. Public Health 46: 1553, Dec., 1956.
9. Kilander, H. F.: Health Services in City Schools—Administrative Aspects. A. J. Public Health 43:321, Mar. 1953.
10. Wilson, Charles C.: School Health Services, National Education Association 1953, page 40.
11. Lesser, Arthur J.: Changing Emphasis in School Health Programs. Children Jan.-Feb. 1958, Page 12.
12. What Every Teacher Should Know about the Physical Condition of Her Pupils. U. S. Dept., Health, Education, and Welfare, Pamphlet, No. 68, Reprint 1955, U. S. Govt. Printing Office.
13. Schwartz, L.: Control of Ringworm of Scalp Among School Children in Hagerstown, Maryland. J.A.M.A. 132:58-62, Sept. 1946.
14. Wilson, Charles C.: Healthful School Living, National Education Association, Washington, D.C. 1957, page 118.
15. Wilson, Charles C.: Healthful School Living, National Education Association, Washington, D.C. 1957, page 139.

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Do Not Ignore Changes in Moles

Moles, "the commonest of all tumors" seldom cause trouble, but one kind needs careful watching because it may produce "the most malignant of all cancer."

This type is junction nevus. It is described in the February Today's Health, published by the American Medical Association.

Some moles may contain certain cells, called "nevus cells" which may predispose to the development of cancer. A mole with these cells is called "junction" because it rises at the junction of the first and second layers of the skin.

Common moles practically never become malignant. Moles that turn cancerous almost invariably get their start in junction nevi.

Most junction nevi never turn cancerous either, but they may occasionally do so. If there are changes in a mole—deepening in color, increase in size, or noticeably heightened sensitivity—a doctor should be consulted. If he finds the mole to be a junction nevus, then he should remove it—before it has a chance to become malignant.

"The odds are very much against every human being, even the most freckled, having a junction nevus. Hence the anxious examination of one's moles is no more to be encouraged than the hourly taking of one's pulse if all else is well. But the grave risk of ignoring any changes in the elevation, shape or color of a mole is not to be encouraged either. Let a physician and his laboratory decide. It might be a junction nevus."

The article was written by James C. G. Conniff, Upper Montclair, N.J.

Mental Health....

EDNA M. LANTZ

Our Hospital Patients Grow Older

The admission of patients 65 years of age and over has shown a rising trend for the past 10 years in Virginia State Mental Hospitals. Diseases of the senium compose about 80% of these admissions. The remaining 20% are functional diseases or other chronic brain syndromes. Both first admissions and readmissions have played a part in this increasing trend of the older patients. This diagnostic group remain only a short period of time because the death rate is high. There are a few discharges for other reasons but the separation from the hospital of those suffering from disease of the senium is usually by death.

Using 1949 as a base of 100 for the index of first admissions, the rate of increase of first admissions of elderly patients has been larger than the increase in other first admissions. This was also true for those admitted with a diagnosis of diseases of the senium (except for 1958 which had a slight drop).

The following tables show the rate of increase in the first admissions.

The functional psychosis group (schizophrenic, manic-depressive and involutional) comprise less than 5% of the admissions, in the 65 years of age and over group so they are not a large part of the admission problem, however, they do become older in the hospitals—as brought out in the previous article.

Although the readmissions of the 65 years of age and over are about 20% of the total admissions in this group, the following table, using 1949 as 100 for the index base shows the increasing trend in this group also, although the readmission rate of this group is not as great as the total readmission rate.

Although the change in percentage of the 65 years of age and over to the total admissions has varied only slightly, the increase in number of patients involved in this age group has placed a burden on both the physical facilities and hospital personnel, since this type of patient requires more equipment and nursing care. Except for one hospital there has been no increase in facilities for the proper housing of the geriatric patient. Overcrowding is general. Such patients need more personal attention by physicians, nurses and attendants. Because of their age, many are physically incapacitated. They are more prone to accident, such as falling, which means more careful nursing aid in their moving about. Many need individual spoon feeding.

There has been a slight increase in the discharges other than by death of patients in the 65 years of age and over in the past few years. This is also true for those diagnosed as disease of the senium. Even so, about 80% of the separations from the hospital in this group is by death. Since the total discharges and deaths 65 years of age and over group include those that have grown old in the hospitals (functional psychosis patients), therefore, the discharge and death index are shown for those diagnosed as diseases of the senium 65 years and over.

The following table shows the index of the dis-

FIRST ADMISSIONS

Year	Total Admissions	Index	65 Years of Age and Over	Index	Diseases of Senium 65 Yrs. and Older	Index	Percent of Admissions 65 Yrs. & over each Year
1949	2049	100.0	482	100.0	428	100.0	23.5
1950	2081	101.6	519	107.7	470	109.8	24.9
1951	1796	87.7	498	103.3	435	101.6	27.7
1952	1969	96.1	546	113.3	471	110.0	27.7
1953	2134	104.1	584	121.2	525	122.7	27.4
1954	2165	105.7	519	107.7	465	108.6	24.0
1955	2276	111.1	629	130.5	566	132.2	27.6
1956	2298	112.2	564	117.0	495	115.7	25.0
1957	2467	120.4	627	130.1	548	128.0	25.4
1958	2791	136.2	673	139.6	539	125.9	24.1

LANTZ, EDNA M., *Statistician, Department of Mental Hygiene and Hospitals, Richmond, Virginia.*

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

READMISSIONS

Year	Total Readmissions	Index	Readmission 65 Years of Age and Over	Index	Readmission Diseases of Senium -65 Yrs. and over	Index	Percent Readmissions -65 Years and Over
1949	1166	100.0	137	100.0	76	100.0	11.8
1950	1129	96.8	131	95.6	80	105.3	11.6
1951	1127	96.7	132	96.3	78	102.6	11.7
1952	1297	111.2	136	99.3	83	109.2	10.5
1953	1310	112.3	139	101.5	72	94.7	10.6
1954	1352	116.0	149	108.8	90	118.4	11.0
1955	1510	129.5	164	119.7	104	136.8	10.9
1956	1513	129.8	188	132.7	119	156.6	12.4
1957	1649	141.4	176	128.5	106	139.5	10.7
1958	1834	157.7	182	132.8	100	131.8	10.0

charge and death rate using 1949 as a base of 100:

By comparison of alive discharges with admissions the turnover rate of the diseases of the senium is very small—about 5%. The death turnover rate to admissions is high, about 95%. Many of these die in the first few months of hospitalization. The average hospital stay of all deaths in the "disease of the senium" group is less than 2 years.

The aged in the general population has increased in the last few years. Estimates are that it will continue to increase. As this increase develops the expectation is that admission of the aged to mental hospitals will increase.

	DISCHARGES				DEATHS			
Year	Total	Index	Diseases of Senium 65 Years and Over	Index	Total	Index	Diseases of Senium 65 Years and Over	Index
1949	2015	100.0	85	100.0	801	100.0	385	100.0
1950	2030	100.7	89	95.5	931	116.2	460	119.5
1951	2296	113.9	77	90.6	852	106.4	405	105.2
1952	2198	109.1	94	110.6	943	117.7	482	125.2
1953	2165	107.4	82	96.5	874	109.1	429	111.4
1954	2208	109.6	89	104.7	786	98.1	416	108.1
1955	2290	113.6	107	125.9	813	101.5	301	78.2
1956	2852	141.5	131	154.1	1,024	127.8	558	144.9
1957	2890	143.4	102	120.0	1,017	127.0	523	135.8
1958	3227	160.1	132	155.3	1,088	135.8	596	154.8

Pre-Paid Medical Care....

Edited by
RICHARD J. ACKART, M.D.

Rising Costs or Waste?

ALBERT V. WHITEHALL
New York, New York

A few months ago a thoughtful insurance executive[1] asked this question: "Who really wants to contain the rising cost of hospital and medical care?" Then he examined the incentives that might be expected to motivate five important groups most interested in this question of rising health care costs.

Do doctors wish to curtail their practice or their income?

Would hospitals willingly curtail the quality of hospital service?

Must insurers halt rising costs and thus diminish their volume of business?

Do labor unions, whose members generally receive health care at their employer's expense, desire to have these benefits restricted?

Do employers themselves wish to take responsibility for curtailing health benefits for employees and their dependents?

All these groups say costs should be cut—but by someone else! Meanwhile, health care costs continue to rise, and the public becomes increasingly uneasy.

Is cheaper care really the issue? The President of the Health Information Foundation[2] recently observed:

> "It seems obvious that the American Public, increasingly aware of the value of good medical care, is willing to pay for it. Certainly, it has reason to be. . . .
>
> "In the past, it's true, pain, disability, and serious illness could be faced at relatively little expense—simply because there was relatively little that could be done for a sick person. Now pain and disability can often be avoided and death greatly postponed—but at the cost of more visits to physicians, more admissions to hospitals, more use of drugs and other treatments.
>
> "Seen in this light, recent increases in spending for medical care do not seem excessive. In fact, many authorities believe that we do not yet spend enough for health items."

It appears that the American people are willing to pay for good care; through health insurance, most of us are increasingly able to pay for better care. Why then the clamor about rising costs?

Perhaps the real reason for the public's concern over rising costs is a lurking suspicion that our voluntary system is vulnerable to abuse, waste, or inefficiency. In almost every discussion of rising costs, there is this undercurrent of suspicion.

Suspicion, of course, thrives on lack of information. Are we telling the American people all they need to know about medical costs—and prices?

There is less mystery on the therapeutic side of medicine than there used to be; today's patients are more sophisticated about wonder drugs, miraculous surgery, and dependable day-to-day medical advice. This knowledgeable demand for high quality is a potent force toward improving quality.

But isn't there too much secrecy about medical economics? Why are doctors so often reluctant to itemize their bills? Why is it so difficult to get full information from some hospitals as to the exact services and supplies furnished? Is such detailed information "bad for the patient to know" or "none of his business"? Would that patient pay any other indebtedness on such meagre explanation? Further, in the absence of readily available criteria by which the patient may judge for himself what he should have been charged, he is dangerously apt to suspect that the doctor's fee is set subjectively, shrewdly, or even greedily.

The general public, purchasing health insurance, has been given very little guidance by the medical profession in determining how much protection to buy. Is this one reason people buy several coverages? Insurance companies try to have their indemnity schedules bear some relation to the actual fees charged by doctors; but any given doctor can make the schedule look like a grab-bag selection of miscellaneous figures. What does this do to the general public, prone to suspect the worst anyway?

(*Editor's Note:* Mr. Whitehall is Vice-Chairman of the Health Insurance Council, an organization established by the insurance industry to provide a central source of information and technical and practical counsel regarding health insurance coverages to groups concerned with health services.)

Suspicions about doctors' fees would have less to grow on if the usual or customary fees of doctors in the community were a matter of public knowledge. Patients are as reticent as doctors to discuss fees even where doctors post notices in their waiting rooms inviting them to do so. Perhaps some overt step by the profession would help to break down this barrier to mutual confidence. Public approval of our voluntary system is essential to its preservation. The public generally has great faith in the medical profession, but it would be dangerous to take this for granted.

Suspicions are further fed by the rare but dramatic incidents where abuse does creep in. Yet, an insurance claims executive[3] recently said:

> "One of the most dangerous things we could do would be to anesthetize ourselves with the thought that the price problem we face is simply the result of patient abuse and doctor and hospital greed. . . . We will not come to grips with the problem until we look deeper. Along with the improvement in our standard of living, there has come a demand for more and better medical care. Even if we were so disposed, we could not turn back this demand. What we must do is to find a way of satisfying the demand at a cost the public considers justified."

Nobody really wants to cut health care costs. But the public is alarmed about spiraling costs, which, of course, are reflected in health insurance premiums. Much of this alarm is really suspicion, fed by ignorance, that perhaps health care dollars may be wasted by abuse or inefficiency.

We say that higher costs mean better care, not waste. But it is not enough to say it; we have to prove it. And that means giving the public—our patients and policyholders—more facts. Mystery no longer has a proper place in medicine.

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(1) Stefan Hansel, Vice President, Great-West Life Assurance Co., Canada, to Council on Employee Benefit Plans, New York, October 17, 1958.

(2) George Bugbee, "Progress in Health Services", December, 1958.

(3) Kenneth Barrows, Claims Secretary, Bankers Life Company, Iowa, to Southeastern Regional Conference, Health Insurance Council, January 27, 1959.

Safety Closures for Drug Containers

Widespread use of safety closures for drug containers is advocated by a North Carolina pediatrician. Dr. Jay M. Arena, Durham, feels that the adoption of safety closures for all drug containers in common home use could reduce the number of cases of accidental, experimental, and innocent ingestion of potentially poisonous drugs.

His observations are reported in the March 14 Journal of the American Medical Association, following a study of 1,600 homes with children under five years of age.

Accidental ingestion of drugs causes 35 per cent of deaths from poisoning of children in the one to five age group. Incidence of poisoning from drugs is much greater than from household agents.

"There is little wonder that poisoning is so frequent in infants and children who learn by exploration, questioning, sampling, and trial and error. They are particularly suspectible to the accidental ingestion of brightly colored attractively shaped and packaged, sugar-coated drugs of all kinds."

To overcome this problem, Dr. Arena believes that all available safety measures and precautions should be utilized. Education alone is not enough. "Precautionary labeling and safety closures are good measures . . . in the prevention of these tragic accidents."

Purpose of the study was to test three closures—two of the safety cap variety and one conventional screw cap—to determine which would be the most effective in reducing the chance of small children gaining access to drug containers. It was also necessary for these safety caps to be designed and constructed so that mothers could remove and replace them with a reasonable amount of ease and convenience.

As a result of the study, Dr. Arena favors the use of a plastic, snap-on type cap. This closure proved to be the most difficult for children to remove and the easiest for them to replace. The ability of easy replacement is valuable since it implies that older inquisitive chidren can prevent younger infants from gaining access to containers. In addition, this cap was voted by mothers as the one in which they felt was the easiest to securely replace. This is significant since a loose cap means an open container.

Dr. Arena is affiliated with the department of pediatrics, Duke University Medical Center.

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Poliomyelitis in Virginia, 1958

Poliomyelitis is unpredictable as to where it will strike, who it will strike, with what severity, or in what numbers. Its occurrence in 1958 followed this pattern. The year 1957 had been the year of lowest incidence, 107 cases, and hopes had been high that 1958 would be lower. An outbreak in the three counties of the southwestern tip of Virginia, Lee, Wise, and Scott, and another in Rockingham County caused anxiety in these areas and destroyed every idea that a record of low incidence would be established. The disease prevailed chiefly in the substandard socio-economic group in this State as it did elsewhere in this country. The age groups that were hardest hit were under 1 and 1-4 years. In past years incidence had been low among Negroes but had increased in this race during the last two or three years. In 1958, however, the number involved was small but it is probable that this was due to the low percent of Negroes in the populations of both epidemic areas. In 1958 there was a relatively high percentage of paralytic cases throughout the United States due, no doubt, to more accurate diagnoses before reporting cases and to a reluctance to report nonparalytic disease without laboratory confirmation.

The total number of cases of poliomyelitis reported in Virginia in 1958 was 159. These were divided: Paralytic, including 28 bulbar cases, 139; Nonparalytic, including unspecified, 20. Table 1 shows the distribution by severity (death, paralytic, and nonparalytic) by age group and number of injections of Salk vaccine.

The first case of poliomyelitis for the year was reported from Pulaski County early in February. It was a bulbar case in a white male, 13 years of age, who had received only one dose of Salk vaccine a year before the onset of his illness. He recovered. This was the only case that developed in Pulaski County in 1958. There were two cases reported in April, one from Norfolk County and one from Roanoke County. The fourth case of the year was reported from Lee County at the end of May. At the corresponding time in 1957 there had been 14 cases in the State. The patient, a native of a mining camp near the border of Wise County, was the first of 8 cases that developed in Lee County. The onset of these cases was one in each of the following weeks: 21st, 22nd, 23rd, 24th, 26th, 27th, 35th, 38th, and 41st. Three of the 8 cases had received 1 dose of Salk vaccine, one of them only a short time before onset of illness. None of them had been given second or third doses.

A month after the appearance of the first case in Lee County, the first case of 1958 in Wise County

TABLE I

POLIOMYELITIS IN VIRGINIA, 1958, BY COLOR, SEVERITY, AGE GROUP AND DOSES OF VACCINE

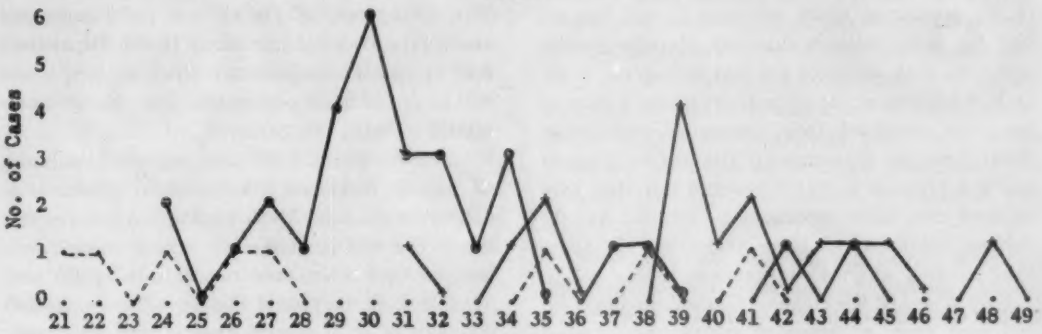
PARALYTIC — 139 (includes 28 Bulbar cases)									NONPARALYTIC — 20							
	WHITE					COLORED				WHITE				COLORED			
Age group	No.	Doses of vaccine				No.	Doses vaccine			No.	doses vaccine			No.	doses vaccine		
		0	1	2	3		0	1	2	3	0	1	2	3	0	1	2	3
0-4	**39	4	*8			10	1				4	5	1	1			1	
5-9	*23	*4	4	*3		4	1				3	2						
10-14	2	5	*1	*4		1		2			1							
15-19	3			*2		1					1		1					
20-24	5		1			1												
25-34	2	1		1														
35-44	***4					1												
45 +	*1																	
TOTAL	79	14	14	10		18	2	2			9	7	2	1			1	

Each * represents 1 fatality.

was reported. During the week, the 24th, two cases were seen. There were no cases in the 25th week. One had onset during the 26th week, 2 during the 27th, 1 in the 28th, 4 in the 29th, and the peak, 6 cases, was reached during the 30th week, which ended July 26th. After this the cases were 3, 3, 1, 3, and down to 0 during the 35th week. Since the week ending September 6, there have been only 4 scattered cases.

Though Rockingham County is remote from Scott County, the pattern of distribution of cases was similar in the two counties. The first case in Rockingham County had its drop to zero after the 43rd week with only two cases reported since, one during the 48th week and the last during the 51st week. There were 21 cases in Rockingham County. One death was reported in this group. The distribu-

Figure I



Number of Cases in Lee, Wise, and Scott Counties, 1958, by week of onset

•—• Lee County
o—o Wise County
+—+ Scott County

The total number of cases in Wise County was thirty. Twelve of these had received 1 dose of Salk vaccine and 9 of the 12 had been inoculated only a few weeks prior to onset; one had been given 2 doses of polio vaccine; none had had the complete series of 3 doses. There were 3 deaths in the Wise County epidemic.

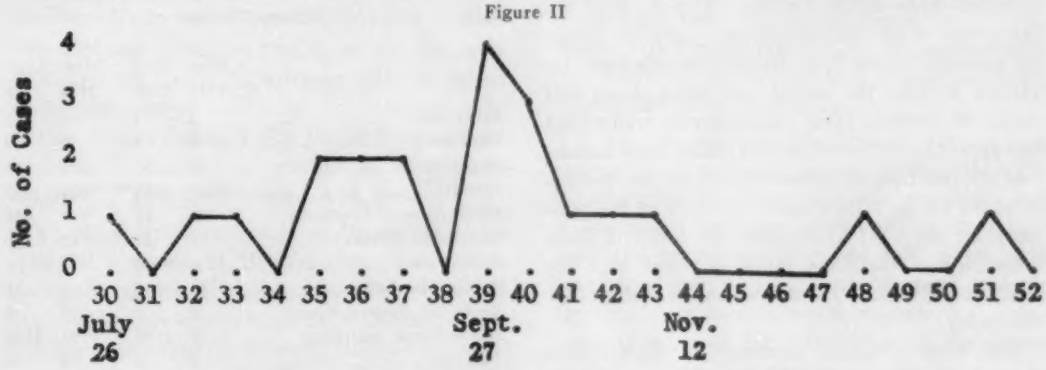
The onset of poliomyelitis in Scott County was the last during the 48th week with a total of 15 cases. The peak in this county was reached during the 39th week when 4 cases developed. There were 3 deaths among the Scott County cases.

tion of Salk vaccine among these cases was 4 with 1 dose, 2 with 2 doses, and 1 with 3 doses.

Figure II shows the number of cases by week of onset in Rockingham County

There is increasing evidence that the vaccine is efficient in preventing paralytic polio and that increased protection is afforded with each dose of the series of three. Routine surveillance of vaccine safety is maintained by the Poliomyelitis Surveillance Unit of the Public Health Service. Since May 1955 a total of more than 298 million doses of vaccine have been used without evidence of break in vaccine

Figure II



Number of Cases in Rockingham County, 1958, by week of onset.

safety. The only vaccine that has been available in the State without cost to the patient has been supplied by Federal funds through the Public Health Service, by the National Foundation, and by certain local groups. Though funds for the purchase of polio vaccine for use among Virginia's medically indigent had been requested in the budget submitted by the State Department of Health to the General Assembly of 1958, none were granted.

In the United States it is estimated that 53% of the population under 40 years of age has not had the three basic inoculations of polio vaccine and more than one-third has had no vaccine at all. Only 9 millions of the 20 millions under 5 years of age have completed their courses of vaccination. What is true for the country is also true for Virginia and it is probable that even fewer in this State have received their basic inoculations. Virginia has the dubious distinction of being among the six States most seriously affected with polio in 1958.

Both Wise and Rockingham Counties had received and used their proportion of the vaccine supplied through Federal funds and had also administered vaccine from other sources. The private physicians of the two counties likewise had given polio vaccine in their practice. When the outbreak appeared in Wise County, the Director of Public Health begged and borrowed all of the vaccine that he could get; the National Foundation, though they no longer supply vaccine, and the County Board of Supervisors made available sufficient vaccine to give first doses to all who applied. Two thousand, eight hundred and eighty-eight persons were inoculated on the first round and 33 had their second doses and 135 finished their 3rd doses during the initial clinics. With the exhaustion of all local sources of supply, the Director appealed to the State Health Commissioner for vaccine to give the second and third doses that would be needed. The Commissioner transmitted this appeal to the Governor who immediately authorized the purchase of sufficient polio vaccine to complete the job in Wise County. In spite of the publicity for the need to complete the series of three doses, 568 of the 2,888 failed to report back for their second doses. Third doses are not due until the spring.

The same situation prevailed in Rockingham County. They entered 1958 with 900 doses that had been provided in 1957 by the National Foundation. In March of 1958 this organization gave another 900 doses which lasted until late April or early May. Then the Health Department had to turn away hundreds of children because there was no vaccine to give them. In late July and August the National Foundation supplied an additional 900 doses and vaccinations were resumed. The Commissioner again went to the Governor and he promptly authorized the purchase of vaccine for Rockingham County. The State Department of Health sent 1,800 doses and assured the Rockingham County Health Department that vaccine to complete the series of three doses will be available for persons who started their immunizations during this period.

In the summer of 1956 there was a mild outbreak of polio in Dickenson County, which adjoins Wise County on the east. Much vaccine was given at that time. The results of the use of the vaccine were seen in 1958 when only two cases of polio were reported from Dickenson County. This emphasizes the value of polio vaccine when it is given in complete series at properly spaced intervals. The polio season of 1959 should be anticipated now and all persons under 40 years of age who have not been immunized should make arrangements through their private physicians to be inoculated. It is with extreme regret that the State Department of Health, through lack of appropriation for the purchase of vaccine, cannot supply Local Health Departments with polio vaccine for the medically indigent of their areas.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE DISEASE CONTROL

	Mar. 1959	Mar. 1958	Jan.-Mar. 1959	Jan.-Mar. 1958
Brucellosis	2	1	6	2
Diphtheria	0	4	2	9
Hepatitis	23	32	135	88
Measles	2543	3709	5423	5250
Meningococcal Infections	13	11	31	30
Meningitis (Other)	26	26	61	61
Poliomyelitis	0	0	1	1
Rabies (In Animals)	19	41	50	123
Rocky Mt. Spotted Fever	1	0	2	0
Streptococcal Infections	1351	1102	3470	2388
Tularemia	1	0	6	18
Typhoid Fever	3	2	5	7

The Medical Society of Virginia . . . .

Council Minutes

The mid-winter meeting of Council of The Medical Society of Virginia was called to order by Dr. Walter P. Adams, President, at 1:00 P.M. on Thursday, March 5, 1959, at Society Headquarters. Attending were Dr. Walter P. Adams, Dr. Allen Barker, Dr. Harry C. Bates, Jr., Dr. Guy W. Horsley, Dr. John T. T. Hundley, Dr. Harry J. Warthen, Dr. Mack I. Shanholtz, Dr. Paul Hogg, Dr. K. K. Wallace, Dr. Benjamin W. Rawles, Jr., Dr. Fletcher J. Wright, Jr., Dr. Louis P. Bailey, Dr. Alexander McCausland, Dr. Harold W. Miller, Dr. Byrd S. Leavell and Dr. Richard E. Palmer. Also in attendance were Dr. Vincent W. Archer and Dr. W. Linwood Ball, Delegates to the American Medical Association, and Mr. Robert C. Duval, Jr., Attorney for the Society.

Dr. Adams opened the meeting by briefly reviewing events leading up to the question of whether or not the Society should conduct another poll on social security coverage for physicians. The question was raised as to whether or not the Society's Delegates to the AMA should be given instructions on the matter before the June meeting of AMA in Atlantic City. This was not considered necessary.

Dr. Ball advised Council concerning the position of AMA on social security for physicians and stated that a recent impartial survey indicated that nearly 80 per cent of the physicians in the nation are not familiar with basic facts surrounding social security.

It was then mentioned that there appeared every likelihood the Keogh-Simpson bills would be passed during the current session of the Congress. The feeling prevailed that, if this should happen, there would be a lessening of pressure for compulsory coverage of physicians under social security.

The President then introduced Dr. George Craddock, Dr. Holcombe H. Hurt, and Dr. Charles Whitmore, who commented on the proposed social security poll of the Lynchburg Academy of Medicine. Dr. Whitmore described the proposed poll in some detail and stated that should The Medical Society of Virginia decide to conduct a poll, the Academy would gladly step aside. He stated that the Academy also wished to proceed through channels and the results of its poll would be submitted to the Society's House of Delegates for such action as it believed advisable.

During the ensuing discussion, it was pointed out that the House of Delegates had, in October, rejected a suggestion for an educational campaign and subsequent poll of the membership. The Council did not feel it would be justified in taking any action contrary to the decision of the House. Dr. Wallace then moved that the Council oppose a social security poll by the State Society at this time. It was then suggested that the motion be amended to point out that this opposition is based on the action of the House of Delegates in October and should not be construed as opposition to a poll conducted by a component society. The motion, as amended, was adopted.

Considered next were six suggestions submitted by Dr. Fletcher Woodward, Charlottesville, concerning traffic safety. They had to do with such matters as reporting all deaths to the Commissioner of Motor Vehicles, reporting to the Commissioner the names of patients with mental disease, etc., the listing of blood types on driving permits, the assignment of responsibility for conducting breath and blood tests for intoxication, the appointment of local traffic referral committees and the development of questionnaires and screening examinations for all driving applicants. Dr. Whitmore agreed that problems connected with traffic safety demanded much thought and study. However, he expressed concern about the possibility of the Society endorsing certain criteria as being scientifically sound when in reality there is some question. He quoted several publications dealing with tests for intoxication. He recommended that the Society be careful not to overemphasize the validity of current procedures.

It was the consensus that Council was not in a position to act on the suggestions at this time. The importance of the suggestions was recognized and it was moved that they be referred to the proper committee for further study and such action as it believed advisable. Dr. Shanholtz stated that the Department of Health would welcome the opportunity to sit in on any deliberations on the subject of traffic safety. The motion was then amended by recommending that the State Department of Health be consulted during the committee's study of the problem. The motion was adopted as amended.

The new program of the National Foundation was discussed—particularly that portion having to

do with medical scholarships. It was stated that much discontent is being evidenced about the State with respect to the many fund drives being waged by various health research organizations. A resolution, prepared by Dr. Adams, was then presented. This resolution specifically requested the Society's Delegates to the AMA to seek information concerning the real need behind the National Foundation's new activities. After some discussion, the resolution was withdrawn. It was then moved that, in view of the proposed extension of many of the health services of voluntary health agencies, the Society's AMA Delegates be asked to obtain information from AMA concerning the necessity and need of extension of these activities. The motion was seconded and adopted.

A letter from the Richmond Pediatric Society having to do with the $10.00 custodial fee for the Conference Room was then read. It was reported that some physicians felt that the Conference Room should be made available to medical groups as a service of the Society and at no obligation. After some discussion, it was moved that the previous action of Council with reference to a $10.00 fee be sustained. The motion was adopted. It was generally agreed that this action by the Council should be reported to the House of Delegates in October.

Council was advised that the Richmond Medical Assistants Association had requested use of the Conference Room and the hope was expressed that the restrictions limiting the Conference Room to physicians' groups and the Auxiliary could be waived in this particular instance. It was then moved that the Medical Assistants groups be permitted to use the Room under the same conditions applying to medical organizations. The motion carried.

Dr. Adams stated that the American Medical Association had requested each constituent society to consider and report its views on two basic questions: (1) Should the concept of free choice of physician be rigidly adhered to as essential to good medical care, and (2) what should be the attitude of local physicians toward participation in closed panel groups which restrict free choice of physician. Dr. Hundley read several excerpts from the Report of the AMA Commission on Medical Care Plans. The Society's Delegates to the AMA were particularly anxious to have some thoughts and suggestions to carry with them to Atlantic City in June. It was generally agreed that "free choice" should always be a cherished principle, but that the profession should realize that certain exceptions and modifications are always possible. After some further discussion, Dr. Hundley moved that the following statement be adopted:

> Modification of the time honored principle of "free choice of physician" is thoroughly justified when better medical services are made available to the public by such modification, and when such services are rendered in accordance with Section 6 of the "Principles of Medical Ethics of the American Medical Association". Consequently, we cannot approve of any resolution proposed to a constituent society of organized medicine which requires the undeviating, rigid adherence to the principle of "free choice of physician" without at the same time recognizing that there are times and circumstances when the principle, though valuable, should be modified to conform to particular and peculiar circumstances.

The motion was adopted.

The feeling existed that the question of "closed panel systems" could not be easily separated from the question of "free choice". It was decided that the statement just adopted would apply to both issues.

Dr. Horsley reported that the Virginia Medical Service Association (Blue Shield) stands ready to develop coverage for those persons over 65 years of age. He stated, however, that it might be advisable for the Society to formally petition Blue Shield to make such coverage available. Dr. Rawles then moved that the following statement and resolution be adopted:

> We recognize the importance of adequately meeting the health needs of that segment of the population aged 65 years and over. These needs must be provided at a cost in keeping with the modest resources or the low income that is the case with many of these individuals. The best medical care at the lowest cost can be provided, in our opinion, under a voluntary prepayment program.
>
> In the case of medically indigent in the aged group, the medical profession believes that it is the responsibility of the local political subdivision in which the individual resides to provide medical care when it is not otherwise obtainable.
>
> The medical profession, the Blue Cross and Blue Shield Plans and private indemnity companies, recognizing the importance of voluntary prepayment health coverage for those 65 and over, must work together to see that adequate medical

care at the lowest possible cost is provided for as many as possible of those in this age group. On the basis of 1957 figures it is estimated that 38.6% of those aged 65 and over have some form of voluntary prepayment insurance. This compares with an estimate of 26% for 1952.

THEREFORE, BE IT RESOLVED that the Council of The Medical Society of Virginia ask the members of the Society to continue their policy of providing medical service in keeping with the ability of the patient to pay, and, particularly in the aged group, to recognize the importance of rendering services at the lowest possible cost.

FURTHERMORE, BE IT RESOLVED that if coverage is provided for the aged group with a level of compensation which will permit the development of such insurance and prepayment plans at a reduced rate, members of The Medical Society of Virginia be asked to accept the adjusted fees in payment for services rendered to those individuals with modest resources or low incomes.

FURTHERMORE, BE IT RESOLVED that the Blue Cross and Blue Shield Plans of Virginia and the private indemnity companies domiciled in Virginia be asked to study the need and to make available policies which will provide the necessary coverage for the special needs of those 65 years of age and over at a cost commensurate with the modest resources or low income of this group.

After some discussion, it was pointed out that perhaps a guide should be developed for medical staffs. Dr. Rawles motion was then adopted. It was also directed that the resolution be published in the Virginia Medical Monthly at the earliest possible moment. The Executive Secretary was also instructed to make the resolution available to the press.

Dr. Adams reported on the new Medicare Contract and Fee Schedule and advised that the Executive Committee's efforts to negotiate the Contract on an indemnity basis were unsuccessful. A letter from General Wergeland, Executive Director of the Medicare Program, was read. The letter stated that an indemnity type plan at this time was inadvisable and premature and would pose serious administration problems. General Wergeland went on to state that indemnity type plans are undergoing serious study and indicated that much would depend upon the report of the AMA Commission on Medical Care Plans. Dr. Adams then stated that, in accordance with previous instructions from Council, the new fee schedule would not be published.

A resolution adopted by the Norfolk County Medical Society was read to the Council as a matter of information. The resolution deplored the new medicare regulations which prohibit dependents living with their sponsors in areas near service hospitals, from utilizing civilian facilities except under certain circumstances.

Considered next was a resolution from the Princess Anne County Medical Society indicating its wish to sponsor jointly, with the Norfolk County Medical Society, the 1960 Annual Meeting. The resolution also expressed the desire for the meeting to be held at Virginia Beach.

Dr. Wallace stated that should the meeting be held in Norfolk, the co-sponsor would be the Portsmouth Academy of Medicine, and that if the meeting should be held in Virginia Beach, the Norfolk County Society would be pleased to have the Princess Anne County Society as a co-sponsor. No date for the meeting has been set as yet.

Next on the agenda was a letter from the Virginia Heart Association requesting the Society to approve a resolution adopted by the AMA in June, 1958, with reference to national voluntary health agencies. That particular resolution expressed confidence in the programs and fund raising policies of such agencies and stated that they should be left free to carry forward their programs without interference.

During the ensuing discussion, it was pointed out that in December, 1958, the AMA had adopted another resolution which pointed out that the action taken in June had been interpreted by some as disapproving the inclusion of voluntary health agencies in United Fund drives. The resolution went on to state "that the AMA neither approves nor disapproves of the inclusion of voluntary health agencies in United Fund drives." In view of this more recent action by the AMA, the Executive Secretary was instructed to write the Virginia Heart Association and advise them accordingly.

Mr. Duval then advised Council that a study of Virginia's Civil Defense Law had been made at the request of the AMA and that, in his opinion, the present law was acceptable. It was not believed necessary to seek further revision of the law at this time.

Mr. Duval then went on to report a proposed bill recommended by the Committee on Radiation Hazards. He stated that the bill would, in general, establish a state agency which would cooperate

with the federal government against the hazards of radiation and radio active materials. Mr. Duval indicated he had rewritten certain sections of the bill in order to comply with the Committee's recommendations and also urged that the Committee cooperate with a special study committee of the VALC which will soon hold hearings on this very problem. Dr. Shanholtz covered the basic provisions of the bill and stated it had been studied by the national committee under Dr. Chamberlain.

It was then moved by Dr. Rawles that Council approve the tenor of the bill and authorize the Committee on Radiation Hazards to represent the Society at hearings conducted by the VALC Committee. It was further moved that the Society advise the VALC Committee it would like to be represented at the hearings. The motion was seconded and adopted.

The matter of a second injury law was then discussed and Mr. Duval stated that another study committee of the VALC will hold hearings on the question soon. It was requested that these meetings be called to the attention of the Sub-Committee on Industrial Health.

A question was raised concerning duties of the Second and Third Vice-Presidents. It was thought the services of these officers could be used to much greater advantage. Dr. Adams stated that it was his intention to use the Vice-Presidents as representatives of the Society at various conferences whenever possible. This was considered a good idea.

A resolution adopted by the Norfolk County Medical Society with reference to compulsory polio immunization was then read. It was the feeling that polio immunization should be required for children entering school and such legislation should be sought. Mentioned was the fact that the North Carolina Medical Society has embarked on a campaign requiring evidence of polio immunization before students can be registered in colleges and camps. The Executive Secretary reported that copies of the North Carolina program had been sent to the Committee on Preventive Medicine.

It was then moved that the question be referred to the Committee on Preventive Medicine and also the Committee on Child Health. The motion was adopted. Dr. Shanholtz stated it might be well to remember that any health service of a compulsory nature is most always a free service.

The Executive Secretary reported that arrangements had been made to award certificates of appreciation to the Society's past-presidents at the next Annual Meeting. The total cost, including the necessary plate for engraving purposes, was estimated at $75, and a special appropriation in this amount was authorized. It was then decided the certificates should be presented unframed.

The Council was then advised of a request from members of the Woman's Auxiliary in Roanoke for a special appropriation of $450 to be used in connection with the Auxiliary's 1959 Annual Meeting. It was reported that, in at least one instance, the local medical society had borne the financial burden. It was generally agreed that local medical societies should not be so penalized.

A motion was then introduced authorizing the requested appropriation. However, during the ensuing discussion, it was believed wise to first have Dr. McCausland contact the Auxiliary representatives and go over their plans with them. The motion was then withdrawn and a new motion introduced leaving final disposition of the request to representative of the Roanoke Academy of Medicine and the State Office. The special appropriation of $450 was authorized if it was considered necessary. The motion was adopted.

Council was informed that the Local Committee on Arrangements for the 1959 Annual Meeting had sought advice with reference to prizes to be awarded in connection with the commercial exhibits. The advice was needed since a matter of policy was involved concerning whether or not the Society should continue to purchase the prizes or seek to have them donated by the pharmaceutical houses. It was moved that the Society be authorized to purchase the prizes in an amount not to exceed $100. The motion was adopted.

Dr. Wright stated that, in his opinion, the Second and Third Vice-Presidents should be invited to attend all Council meetings in a non-voting capacity. The Executive Secretary was instructed to advise the Second and Third Vice-Presidents of this decision and to make sure that they are invited to attend future sessions.

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD
Secretary

APPROVED:

WALTER P. ADAMS, M.D.
President

Woman's Auxiliary....

President.....Mrs. Charles A. Easley, Danville
President-Elect.....Mrs. Walter A. Porter, Hillsville
Vice-Presidents.....Mrs. George K. Brooks, Richmond
Mrs. James M. Moss, Alexandria
Mrs. W. A. Eskridge, Parksley
Recording Secretary....Mrs. Robert B. Keeling, South Hill
Corresponding Secretary.....Mrs. J. J. Neal, Danville
Treasurer.....Mrs. Wyndham B. Blanton, Richmond
Publication Chairman...Mrs. Custis L. Coleman, Richmond
Directors.....Mrs. J. R. St. George, Portsmouth
Mrs. Lee S. Liggan, Irvington
Mrs. Maynard Emlaw, Richmond

Mental Health

I appreciate very much the honor of being invited to discuss some phases of mental health before your group. Since no definite subject was discussed or requested, I will take the liberty to discuss briefly several items that I feel are important to the mental health program, for the moment at least.

At the onset of this discussion I am reminded that for some time the Council on Mental Health of the American Medical Association has strongly urged that a mental hygiene committee be formed in the Woman's Auxiliary of the State Medical Societies and that the chairman of each committee be invited to sit in as a permanent guest member at the meetings of the Mental Health Committee of the State Medical Society. As chairman of the Mental Hygiene Committee of The Medical Society of Virginia for the year 1958, I invited the chairman of the Mental Hygiene Committee of your auxiliary to attend our meetings, but unfortunately, due to some conflict, she was unable to attend either of our meetings. As I am again chairman of the Mental Health Committee for the year 1959, I wish to extend to the chairman of your Mental Health Committee a most cordial invitation to attend our committee meetings. She will receive due notice of the time and place of our meetings.

At this time I would like to draw to your attention the position of the Woman's Auxiliary in the community in which you live. Because you are married to doctors, it is generally considered by the average person that you are authorities on all things medical—and I say facetiously—perhaps once removed. Therefore, through your contacts at P.T.A. meetings, bridge clubs, cocktail parties and the like, you can wield much influence as an oustanding lobbyist for things pertaining to the medical profession. With this in mind, I sincerely solicit your aid for the cause of mental health in your community.

There is a rapidly growing need for concern about the whole problem of mental illness and health in America. There is, therefore, a sharp challenge to all of us, and for science generally, to master and control these problems so that we will be in a position—as the leading medical profession in the world today—to provide guidance toward proper public policy with respect to treatment needs for patients and, more particularly, for the development of preventive techniques.

The whole problem of mental illness is becoming recognized as one of our most pressing problems of health for the American people. It is the special responsibility of medical societies, the woman's auxiliaries and the medical profession generally to take such steps as will enable the profession as a whole to assume leadership in the field of mental health which is the proper responsibility.

In spite of the tremendous advances that have been made in the past few years in the understanding of mental illness, we know that we will have a terrific problem, particularly with so-called functional psychoses such as schizophrenia and the psychoneuroses, which are seemingly unlimited.

For some time I have been very interested in Blue Cross and Blue Shield coverage for mental illness. Consequently, this has been an item of major interest to the Mental Health Committee since I have been a member of the committee. For many years it was shameful the manner in which all insurance companies discriminated against the individual who was so unfortunate as to develop a mental illness and consequently had to be hospitalized. I can recall that at one time no insurance was available for mental illness. During the past four or five years we feel that considerable progress has been made insurance wise for mental illness. At first the Richmond Blue Cross and Blue Shield Plan allowed ten days' coverage in a psychiatric unit for mental illness, alcoholism and drug addiction. In June, 1958, this was increased to sixty days for the same conditions.

Unfortunately, there are areas in Virginia that do not have the coverage comparable to the Richmond Plan. At the present there are four plans in

Address delivered at The Workshop of the Auxiliary to The Medical Society of Virginia, Richmond, February 10, 1959.

the State of Virginia—the Richmond, Roanoke, Norfolk and Lynchburg. I give you these names because I feel that your auxiliary could not render a more humane service than contacting the director of these plans in your locality and put all the pressure possible on them to bring about an equitable coverage for mental illness. Even our Richmond Plan is not all that would be desired because it does not equal the coverage allowed in some other states. I can say though for the Executive Director of the Richmond Blue Cross and Blue Shield Plan that he has been most cooperative, and I feel that he is very sympathetic with this problem. He has met with our committee on several occasions and has been responsive to our suggestions. I hope that each of you on returning home will take it upon yourself to discuss this problem with your husband and others in important places who can bring pressure to bear on the insurance companies in behalf of these unfortunate people. Since over half the beds in the hospitals of the United States are occupied by mental patients, it definitely would be a saving from a tax standpoint. I am sure that should more mental patients have insurance made available to them it would be possible for them to obtain treatment in a private psychiatric unit, thereby lessening materially the patient load in our various state institutions.

During the year 1957 our committee was very interested in the nursing home situation throughout the State of Virginia. One of the members of the committee made an interesting and comprehensive survey of nursing homes in Virginia. In his survey he found that approximately 35 per cent of the patients in nursing homes had mental infirmities and one third of the patients were in need of psychiatric supervision.

It is my feeling that any institution, hospital or home for the care and treatment of the mentally ill, epileptic, mentally deficient persons, or persons addicted to the intemperate use of narcotic drugs, should be licensed and adequately inspected from a psychiatric standpoint.

I think that what I have just said concerning nursing homes ties in very well with a problem that is most important throughout our entire country, namely, mental illness and health in the aged. Our reason for concern is that there are fifteen million people in the United States at present over the age of 65. Their potential need for medical services at present is very great and will increase. The American Medical Association expressed its awareness of the present and future problem in establishing a committee on the aging. It has recently held a planning conference of medical society action in the field of aging and has produced a blue print entitled: "The New Era of Aging", a positive health program for older citizens and a pamphlet entitled: "Health Aspect of Aging". It is hoped that these aids will be of service to state, county societies and to your own auxiliary. Too often doctors have not regarded mental illness and health in the aged as an area worthy of their best efforts. There is ample evidence that a more hopeful attitude can be constructive in shaping social attitudes toward senior citizens.

In my opinion medicine must make a positive approach and register concern for the 350,000 old people in nursing homes and 350,000 over the age of 65 who are in institutions, including general hospitals, state hospitals, old people's homes, prisons, etc. With this in mind I feel that it behooves all of us to do everything we can to improve the standard of nursing homes where so many of our aged in Virginia are now quartered.

I do not mean that merely the improvement of the standards for nursing homes is all that we should do for the aged, but that in my opinion is an area where the most improvement is needed. In addition to nursing homes our interest in the aged should also be directed toward their care in general hospitals, state hospitals, etc. It is certainly not my opinion that the aged as a whole should be rushed off to a nursing home or a state hospital. On the contrary, I feel that the senior citizen, as I am sure he would like to be called, has a need to preserve his essential dignity. He must feel useful and wanted. He must feel that he still has a place in the social group. Whenever possible, the old person should be maintained in his own home. Familiar surroundings and friends do much to provide stability. The old patient should be kept in the hospital only as long as his symptoms cause distress, and it is for this group that my interest and concern are increased for better facilities in nursing homes and hospitals.

Not only am I concerned about the nursing home situation as it relates to the treatment of the aged, but the Mental Health Committee in 1958 heard a report from a representative from the office of the Commissioner of Mental Hygiene and Hospitals to the effect that quite a number of mentally defective children are currently being cared for in nursing homes which are very poorly equipped and the children receive little, if any, medical care. It was the

consensus that something should be done concerning this situation. It was decided to bring this to the attention of the Woman's Auxiliary and invite their assistance in promoting an educational campaign through P.T.A. and other organizations, hoping thereby that public attention could be aroused and that in some way an effectual means could be found to remedy this situation.

To understand the seriousness of the mentally defective and retarded child statistics show that three and one half per cent of the population are retardates and that seven per cent of the children in the population have learning disabilities. One in one thousand of the general population will be mentally retarded and will need care for the rest of his life, and four of the mentally retarded population can be helped and twenty-five in the same population of the mentally retarded can be self-supporting with adequate care and education. The attitude toward mental defectiveness and mental deficits in children in general has been greatly changed because of greater research into the diagnosis and nature of the mental deficit. There are many misconceptions and a great deal of ignorance still existing today concerning this problem. What we need is to move ahead with better means of diagnosis, and in this way we no doubt will find that many who have been diagnosed as mentally retarded, feeble-minded and the like are not in this category at all.

It is obvious that if psychiatry is to make any real contribution in the area of mental deficiency that the emphasis must be placed on a more accurate diagnosis. The more psychiatry can contribute to the diagnostic field, the greater chances there will be that many children who are presently diagnosed as feeble-minded, mentally retarded, etc., will not fall into this category. Too often retarded children are kept in school with no effort made to find the cause of the deficit. It is the feeling of many that there is a great need for all purpose child psychiatric diagnostic centers in each state, so that it will be possible to separate feeble-mindedness from other mental deficits which might be more effectively treated. Frequently parents who get the feeling that the child is not developing normally mentally do not know where to get help. As yet, there are too many untrained people in this field. There are not enough psychiatrists in the general population, and there are only about two hundred child psychiatrists who are qualified in the United States. I will have more to say about this later in this discussion.

The following has been recommended by those who are interested in this phase of mental health:

1. Psychiatrists and pediatricians will need the help of auxiliary groups to carry out programs for the child with a mental deficit.

2. It will be necessary to rely on the teacher, psychologist, social worker and other lay groups to carry out programs and even help in diagnosis.

3. Schools for retarded children should be schools for retarded children. There is need for separation of delinquent and aggressive defectives from the child who can be trained.

4. There is need for all purpose psychiatric diagnostic centers in each state, whether it is in- or out-patient type.

5. Day care programs for younger children.

6. Counselling and guidance for parents.

7. More special classes in schools for the child who has a learning deficit.

8. Teacher training programs.

Quite frequently the question is raised, why is it necessary for our state institutions to employ physicians from foreign countries to places on the medical staff. They complain that very many of them have so much difficulty speaking English that the patients, as well as the families, find it extremely difficult to understand them. This, of course, presents quite a problem to a mentally sick patient who is having difficulty understanding what it is all about in his confused state of mind. I am told that the reason for this is that there is still a shortage of psychiatrists in this country. I feel that a campaign of some kind should be put on to get more of our medical students interested in psychiatry.

It is my opinion that psychiatric education of medical students has long lagged behind the other branches of medicine. For years some of my medical brethren, unfortunately, had a tendency to look on psychiatry with scorn and ridicule; and no doubt some years ago there was a seeping of this attitude into the higher echelon who had to do with the curriculum in the medical schools. I know that most of you certainly have an interest in mental health and what it means in your community. We are far from achieving our goal in this field, but we are steadily but slowly making progress. As I have said, there have been many road blocks due to ignorance and a certain amount of jealousy, but with the help of such groups as yours I believe the public generally can be better enlightened about mental health and thereby dispel the belief of many that medical illness is a stigma and cannot be helped by scientific means.

JOHN R. SAUNDERS, M.D.

Editorial....

Interpretation of the Electrocardiogram

THERE ARE THREE major methods of interpretation of the electrocardiogram concurrently employed and most of us use all three to a greater or lesser degree. The first is simple pattern electrocardiography in which one memorizes the normal patterns and variations, then reviews the electrocardiogram and compares this with the normal. Various patterns which have been shown to indicate particular pathological conditions are also learned and with practice usually become readily recognizable. These patterns include left and right ventricular hypertrophy, bundle branch block, myocardial infarction, evidence of ischemia and changes due to drugs. This method does not require an understanding of why the patterns occur and limits the interpretation to so-called clinical experience which is difficult to quantitate. Certainly experience is necessary but it should be based on fundamental knowledge.

Unipolar electrocardiography became popular about fifteen years ago and has been valuable since it offers a logical explanation for various electrocardiographic patterns. This method is based on Dr. Frank N. Wilson's experimental and clinicopathologic observations. The unipolar theory postulates that an exploring electrode placed on various parts of the body and paired with an indifferent electrode records an electromotive force which is similar to that which develops on the heart surface facing the electrode. Thus these semi-direct leads which are placed over the right ventricle record right ventricular potential and over the left ventricle, left ventricular potential. These are called right and left ventricular patterns. Electrodes are strategically placed on the left arm, left leg and right arm. Electrodes are also placed at various points over the precordium and the position of the two ventricles theoretically determined. Changes in the electrical position and perhaps the anatomical position of the heart are thought to be determined by observing the potential recorded at these areas. It is assumed that a myocardial infarction is recognized by the placement of the exploring electrode on the chest wall facing the infarcted area. Exploration of the chest wall with this electrode is thought to give information not provided by the standard precordial leads. This concept, though subject to criticism, has been useful and instructive.

The third method utilizes the vector concept. This assumes that the electrical activity begins in the center of the heart and this can be recorded by placing the electrodes on the body surface so that the projection of the electrical forces can be determined on the frontal plane, sagittal plane and horizontal plane. This also assumes that these electrical forces are reflected on each lead though on some it is greater than others, depending on the direction of the force and the location of the lead axis. The instantaneous vectors are recorded at four milli-second intervals and a loop automatically visualized on a cathode ray oscilloscopic screen by electrical integration of

two leads. This image can be photographed and the loops indicating depolarization of the atria and ventricles and repolarization of the latter studied. This method is experimental and at the present time impractical for clinical uses.

The vector concept is useful, however, and has clinical application in what Grant calls vector electrocardiography. This has recently gained popularity and seems to be particularly helpful in that it brings together vector cardiography and electrocardiography both as to thinking and as to terminology. In this method of interpretation the electrocardiogram is taken in the usual manner. The standard and unipolar extremity leads are frontal plane and the precordial leads are horizontal plane leads. The instantaneous electrical vectors can be plotted as projected at .02 second intervals and the frontal plane loop easily constructed. The mean electrical vector can be oriented in space by determining its projection on the frontal plane and then on the horizontal plane. The location and direction of the major electrical potential of the heart can be determined and this is particularly useful in detecting right and left ventricular hypertrophy.

The initial and terminal electrical vectors can also be oriented in space. The former is useful in the location of myocardial infarctions and the latter is important in the diagnosis of conduction defects.

The ST and T vectors can also be spatially oriented in a similar fashion and give information regarding ischemia and injury of the heart muscle.

The vector concept seems to be particularly useful in the understanding of the basic principles of electrocardiography particularly since new methods of recording will probably be developed and new systems of leads employed. It will be as easy to interpret these new recordings as the old, if this concept is understood.

Regardless of how the electrocardiogram is taken or what method of interpretation is employed, we must realize that it is only one useful tool in our diagnostic armamentarium and by no means replaces a careful history and physical examination. Excepting arrhythmias electrocardiograms should not be expected to indicate definitive etiologic diagnosis. Moreover, neither can the functional capacity of the heart be determined nor the ability of an individual to withstand surgery be estimated by an electrocardiogram alone.

It seems important to emphasize that the electrocardiogram must be interpreted with the clinical data in mind and not as a isolated reading. Electrocardiograms are frequently sent to physicians who read them without clinical data. Their interpretation should not then be diagnostic and the possibilities reported rather than a definitive diagnosis given. There are honest differences of opinion in interpretation which would be resolved if the clinical data were known.

The ultimate responsibility rests on the physician who is managing the patient and he should integrate the electrocardiographic interpretation with his clinical information and not expect the electrocardiogram to solve the problem either of diagnosis or management.

JULIAN R. BECKWITH, M.D.

From the Cardiovascular Section, Department of Internal Medicine, University of Virginia Hospital, Charlottesville.

The Keogh Bill and Senator Byrd

THE KEOGH-SIMPSON BILL, which would permit tax deferral by the self-employed up to $2500 annually, passed the House in March with not more than 15 or 20 members dissenting. The tax relief this proposed measure would afford physicians, the largest group not covered by social security, would be considerable. While taxes would eventually be paid on this income, the saving would be material, for the tax ultimately would be figured in terms of the reduced income of the elderly physician and not on the basis of the high tax bracket he was in at the time the tax was deferred.

The question now arises as to whether the Senate will act on the measure this year or postpone action until 1960. Last year Senator Byrd, Chairman of the Senate Finance Committee, held no hearings on the bill because it reached his committee near the end of the session.

It is felt by some that Senator Byrd is opposed to this bill on two counts. There unquestionably would be a loss to the treasury of the United States to the same degree that tax relief would be afforded to the affected physicians, and our senior Senator has always taken a dim view of anything that makes the budget harder to balance. A second, and more difficult objection to evaluate, is the possibility that other groups might seek the same tax deferral with a correspondingly greater tax loss if their efforts should prove successful.

These factors, no doubt, loom large in Senator Byrd's consideration of the bill. On the other hand, he has always been a friend of the medical profession in Virginia and has sought to advance our interests with the same vigor that he has shown in aiding other law-abiding groups in the State. This means that he probably is facing a difficult decision regarding the Keogh-Simpson bill. It is the hope of the medical profession in Virginia that the Senator will find it possible to support this measure.

H. J. WARTHEN, M.D.

Current Currents

SOLID PROGRESS has been made by the AMA's program to improve the health care of the nation's aged population, according to Dr. Leonard W. Larson, Chairman of the AMA's Board of Trustees. Dr. Larson stated that the development of new insurance programs and expansion of existing lower cost protection for persons 65 and over are moving forward "even faster than many of us would have dared hope only a few months ago". State and local medical societies have been credited with acting promptly and decisively in carrying out their parts of the program.

A RAPIDLY INCREASING number of foreign trained physicians are taking the qualifying examination of the Education Council for Foreign Medical Graduates. Only 298 took the first examination in March 1958. Since that time, however, the examination attracted 844 in September 1958 and 1,772 in February 1959. More than a thousand have already registered for the next examination to be offered September 22 of this year.

The Council, with offices in Evanston, Illinois, aids graduates of foreign medical schools in establishing their qualifications to obtain internships or residencies in United States hospitals.

Applications for the next qualifying examination must be in the ECFMG Offices at 1710 Orrington Avenue, Evanston, Illinois, by June 22.

SOME CONFUSION still exists concerning the accreditation of hospitals and the approval of intern and resident training programs. The Joint Commission on Accreditation of Hospitals emphasizes the fact that it accredits hospitals only and has no responsibility for the approval of educational programs. The responsibility for the latter is borne by the American Medical Association, and inquiries concerning these programs should be directed to its Headquarters at 535 North Dearborn Street, Chicago 10, Illinois.

THE V.A. HOMETOWN CARE PROGRAM has been endorsed by the AMA Committee on Federal Medical Services as the best method of providing out-patient care for service-connected disabilities. According to the Committee "this method appears to be the most effective way of maintaining the continuity of care and the personal relationship between physician and veteran patient so important to good medical care." The Committee recommended expansion of the intermediary type of program.

1959 ANNUAL MEETING
ROANOKE—OCTOBER 4-7

CANADA has launched its own accreditation program. Motivated by an admirable spirit of national independence, the Canadian Council on Hospital Accreditation has assumed the responsibility of accrediting hospitals in that country. In order that it can give its full support to this new program, the Canadian Medical Association has resigned its membership in the Corporation of the Joint Commission on Accreditation of Hospitals.

THE COST of educating the future physician is high. Few realize that the tuition paid by the student covers only 18.2 per cent of the actual cost of his training. Some of this deficit is made up by endowment income coupled with grants and requests from individuals and foundations. But—a gap remains, and only AMEF can fill it. AMEF funds enable the school to keep valued faculty members, attract others, and purchase necessary equipment at the time it is needed. In short, unrestricted money from AMEF provides a means of helping the medical schools meet a grave problem without resorting to federal aid and its eventual control.

Remember that your gift to AMEF can be earmarked for your alma mater.

NEWSPAPERMEN like to work with people who know their problems and needs. Those in charge of getting medical society news to their community papers will find the answers to many questions in a handbook entitled "How to Make Friends with the Press". This handbook is published by the Blue Cross Commission, and describes what events are likely to interest a paper and how to go about getting them published. Questions on whom to approach on a particular story, when to send a release by mail and when to take it in person, and what information a release should contain are all answered in well-illustrated terms. Twelve newspaper editors reviewed the book before publication and contributed their suggestions and ideas.

A limited number of copies are available at no cost from the Blue Cross Commission of the American Hospital Association, 840 North Lakeshore Drive, Chicago 11, Illinois.

A SURVEY designed to show why people resist polio vaccination efforts has been completed by the California Department of Public Health. The survey was conducted among uninoculated citizens and it was learned that the biggest reasons for not obtaining protection were fear and procrastination. Fourteen per cent of those interviewed questioned the safety of the vaccine. Forty-six per cent said that they were too busy or couldn't be bothered. Expense was a problem to fifteen per cent of those earning under $2,000 a year. Twenty-four per cent of those having children under 6 years of age thought their offspring too young for the shots. Local societies will wish to keep these arguments in mind when planning campaigns.

Society Activities....

Lynchburg Academy of Medicine.

Dr. L. R. O'Brian, Jr., has been named president-elect, succeeding the late Dr. John G. Holland.

Tri-State Medical Association.

Dr. Robert A. Rose, University of North Carolina, was installed as president of this Association at its meeting in Winston-Salem, North Carolina, in March. He succeeds Dr. W. R. Jordan, Richmond. Dr. Furman Wallace, Spartanburg, South Carolina, has been named president-elect.

Virginia Academy of General Practice.

The 9th Annual Scientific Assembly of the Academy will be held in Richmond, May 7-10, at The Jefferson Hotel. Dr. W. Linwood Ball, Richmond is president.

There will be a golf tournament at the Lakeside Country Club on the 7th, beginning at 10:00 A.M., and at 7:45 P.M., a bus will leave the Jefferson Hotel for a play at the Barksdale Memorial Theatre at Hanover Court House.

On Friday, the Virginia Diabetes Association will present their annual program as follows: Oral Hypoglycemic Agents by Dr. Leo P. Krall, Joslin Clinic, Boston; Eye Complications in the Diabetic by Dr. L. Benjamin Sheppard, Richmond; and Peripheral Arterial Disease in the Diabetic by Dr. William R. Sandusky, University of Virginia. At the afternoon session, Dr. C. Bernard Brack, Johns Hopkins Hospital, will speak on Early Diagnosis of Uterine Cancer. He is being presented through the courtesy of the Virginia Division of the American Cancer Society. Dr. Richard H. Kirkland, Richmond, will speak on Newer Concepts in the Management of Thyroid Disease. The Hirsute Female will be the subject by Dr. Robert B. Greenblatt, Medical College of Georgia. This speaker is being sponsored by The National Drug Company.

On May 9th, the following program will be presented: Some Problems in Geriatric Medicine by Dr. Edward Henderson, Editor-in-Chief of the Journal of the American Geriatric Society, Montclair, New Jersey. Dr. Milton Rapoport, Children's Hospital, Philadelphia, will speak on The Child Handicapped by Nephrosis, and Dr. George G. Deaver, New York University Institute of Physical Medicine and Rehabilitation, will discuss The Child Handicapped by Cerebral Palsy. Drs. Rapoport and Deaver are presented through the courtesy of the Nemours Foundation and the Virginia Council on Health and Medical Care. Therapeutically Induced Weight Gains in Hypertensives will be presented by Dr. Harold Feldman, Livingston, N. J., through the courtesy of the Nordson Pharmaceutical Laboratories, Dr. Edmund F. Finnerty, Jr., Boston, will speak on Newer Concepts in the Treatment of Common Skin Diseases, and Dr. Nicholas E. Capeci, West Point, Pennsylvania, on The Present Status of Adrenocortical Steroid Therapy.

The Banquet speaker will be T. Coleman Andrews, Richmond, his subject being Wasteful Spending, Confiscatory Taxation and Inflation are not Laughing Matters.

On Sunday morning, Dr. Francis L. Chamberlain, President of the American Heart Association, San Francisco, will present The Treatment of Hypertension, and Mr. Horace Cotton, Southern Pines, North Carolina, will speak on Ten Years of Socialized Medicine. A religious service, conducted by The Rev. Richard C. Fell, Richmond, will close the session.

News Notes....

New Members.

The following doctors have been admitted into membership in The Medical Society of Virginia since the list published in the April issue of the Monthly:

Dr. Joseph Eugene Bartkowski, Arlington
Dr. Albert Joseph Bisese, Norfolk
Dr. Margaret E. Crowder, Petersburg
Dr. Barry Decker, Richmond
Dr. Alvin William Finestone, Clifton Forge
Dr. George J. Fleury, Jr., McLean
Dr. Owen Gwathmey, Richmond
Dr. Alfred G. Johnson, Petersburg
Dr. William Stone Jordan, Jr., Charlottesville
Dr. Hulbert Jay Kanter, Norfolk
Dr. Milton H. Kibbe, Colony
Dr. Fraz Michael Kraler, Hayes
Dr. F. H. McMullan, Richmond
Dr. Franklin B. McKechnie, Richmond
Dr. Russell Watson Roberts, Charlottesville
Dr. Robert S. Smith, Dinwiddie
Dr. Henry Harrison Wilson, Jr., Richmond

Honors Dr. Dodson.

The Virginia Kidney Foundation has named its annual research grant in honor of the late Dr. Austin I. Dodson. This year's grant will amount to $10,000 and will be used in conjunction of the organization's new kidney clinic.

"Gun Totin'" Secretary.

Robert I. Howard, executive secretary of The Medical Society of Virginia, has won top honors in the spring meet of the Carolina Gun Collectors' Association at Winston-Salem. He is the first member of the Virginia association to win the award since it was organized in 1952. "Bob" received the best of show award for his exhibit on Confederate arms, featuring shoulder arms and revolvers.

Poison Control Center at the University.

A Poison Control Center has recently been established at the University of Virginia Hospital. The purpose of the Center is to minimize the damage to children and adults from the ingestion of potentially toxic substances; to coordinate the various types of general and specific treatment measures required in the hospital, the physician's office, and to make the resources for treatment readily available.

A portable locked cart has been designed to contain the necessary therapeutic agents. This cart will also contain necessary supplies, drugs, antedotes, equipment, and reference material for prompt treatment.

The reference material in the Center includes Poison Index Cards received from the National Clearinghouse for Poison Control Centers, reprints of articles relative to poisons, and books.

The Poison Control Center cart will be located in the Pediatric Clinic of the Hospital, Monday through Friday, from 8:00 a.m. to 5:00 p.m. From 5:00 p.m., it will be in the emergency room. It will also be in the emergency room on Saturdays, Sundays and holidays.

Dr. Austin I. Dodson, Jr.,

Has accepted the post as interim chairman of urology at the Medical College of Virginia, replacing his father. He will serve temporarily until a report from the faculty committee and action by the Board of Visitors.

Virginia Board of Medical Examiners.

At the meeting of the Board held in Richmond on December 6, 1958, the following physicians were licensed by examination:

Dr. Apostolos Alekoumbides, Marlboro, N. J.
Dr. Wasfi Antum Atiyeh, Richmond
Dr. Boghos Bedrossian, Syracuse, N. Y.
Dr. Jeffrey Douglas Beeson, Petersburg
Dr. Johan L. Binkhorst, Charlottesville
Dr. Giulio Callari, Richmond
Dr. Frank Campo, Trenton, N. J.
Dr. Gilbert Reed Clark, Silver Spring, Md.
Dr. Jacqueline Gotlibas Coant, Woodbury, N. J.
Dr. Zeki Erim, Arlington
Dr. Fulton Williams Fite, Denver, Col.
Dr. Wolfram Richard Forster, Alexandria
Dr. Alfonso Briosa e Gala, Toledo, Ohio
Dr. Peter Harold Robert Hawkes, Norwick, Conn.
Dr. Henry Desmond Hayes, Petersburg
Dr. Engelbert Hecker, Youngstown, Ohio
Dr. Wellington Hung, Washington, D. C.
Dr. Troy Howell Hutchinson, II, Kansas City, Kans.
Dr. Yoshiki Ishizaki, Richmond
Dr. Alfred Jerofke, Marion
Dr. James Byrd Johnson, Ewing
Dr. Rudolph Keebling, Columbus, Ohio
Dr. Antoine Khoury, Canton, Ohio
Dr. Rolf Alfred Koehler, Cleveland, Ohio

Dr. Guenter Johannes Loderstedt, Annandale, N. J.
Dr. Desmond John Hubert Longford, Petersburg
Dr. Gerhard Hans Lukowsky, Arlington
Dr. John Alfriend Mapp, Norfolk
Dr. Hildegard Maricq, Montclair, N. J.
Dr. Louis Benedict Massad, Arlington
Dr. Stage Edmund Miller, Winchester
Dr. Geertruida D. J. Z. Moll, Hampton
Dr. Hiroharu Nakazato, Kew Gardens, N. Y.
Dr. Rolf-Guenther Nissen, Warren, Ohio
Dr. Andre Edgar Numa, Wilmington, N. C.
Dr. Fausto Obregon, Marion
Dr. Zeno George Paclisanu, Staunton
Dr. Ramon Benito Perez, Milledgeville, Ga.
Dr. Joseph Pizzino, Canton, Ohio
Dr. Jeanne Marie Plunkett, Dallas, Tex.
Dr. Joseph Francis Possert, Cleveland, Ohio
Dr. Raymond Arthur Robbins, New York, N. Y.
Dr. George Donald Roberson, Richmond
Dr. Cornelis Rol, Richmond
Dr. Lily Ruckstuhl, Marchantville, N. J.
Dr. Emile Selim Sayegh, Portsmouth
Dr. John Barry Sherry, Waynesboro
Dr. Konrad Hermann Soergel, Boston, Mass.
Dr. Alfred Strauss, Trenton, N. J.
Dr. Henry Joseph Tucker, Jr., Richmond
Dr. Ruth Vankai, Arlington
Dr. Antonio Velo, Richmond
Dr. Louis Ventura, Burkeville
Dr. Alice Wolfsohn, New York, N. Y.

The following were licensed by endorsement of credentials:

Dr. Charles Newton Austin, Abingdon
Dr. Ronald G. Barsanti, Vienna
Dr. Thomas Rector Bass, Tazewell
Dr. Edward Charles Bauer, Roanoke
Dr. Mannheim Mendel Bocknek, Falls Church
Dr. Jacqueline Bodia, Norfolk
Dr. Joseph Dixon Cauthen, Jr., Norfolk
Dr. Reneal Claire Cobb, McLean
Dr. Robert Thornhill Coffman, Keyser, W. Va.
Dr. Robert Lee Cozine, Manassas
Dr. Joseph D. Cuona, Caldwell, N. J.
Dr. Alan McCulloch Drummond, Falls Church
Dr. William McCoy Eagles, Richmond
Dr. William Gamm Eckert, Norfolk
Dr. DuBose Egleston, Waynesboro
Dr. Joseph Charles Evers, Washington, D. C.
Dr. Charles Lee Ferguson, Philadelphia, Pa.
Dr. Alvin William Finestone, Clifton Forge
Dr. Allan Louis Forbes, Richmond
Dr. Louise Trent Gardner, Wise
Dr. Thomas Aquinas Gilday, Washington, D. C.
Dr. Mary Townsend Glassen, Galax
Dr. Robert Evan Goyne, Waynesboro
Dr. Philip Shepard Grant, Staunton
Dr. Stanley Joseph Haberek, Silver Spring, Md.
Dr. Archibald Southgate Hampton, Luray
Dr. Allen Lee Haslup, Portsmouth
Dr. Phyllis Ray Ingram, Charlottesville
Dr. Arthur Thomas Jones, Alexandria
Dr. William Ellis Josey, III, Norfolk
Dr. Hulbert Jay Kanter, Norfolk
Dr. John Francis Kelly, Falls Church
Dr. John Aaron Kidwell, Weyers Cave, Va.
Dr. James Morgan Loftus, Washington, D. C.
Dr. Paul Hargrave Logan, Petersburg
Dr. Norman Lowe, Norfolk
Dr. Alfred John Luessenhop, Washington, D. C.
Dr. Charles Mawhinney, Jr., Alexandria
Dr. James Gordon McFaddin, Bristol, Tenn.
Dr. Richard Alan Nelson, Grundy
Dr. James Edward Newby, Jr., Great Lakes, Ill.
Dr. James Ellsworth Chiles Norris, Kilmarnock
Dr. Roy Burlew Parsons, Jr., Wytheville
Dr. Sylvia Negron Payne, Arlington
Dr. Leonard Theodore Peterson, Chevy Chase, Md.
Dr. Philip Ernest Ramirez, Jr., Charlottesville
Dr. Paul Alexander Ryan, Falls Church
Dr. Guy Anthony Settipane, Portsmouth
Dr. Arnold Shamaskin, Springfield
Dr. Robert Julius Sherman, Washington, D. C.
Dr. Hugh Van Sickel, Falls Church
Dr. Broadus Frederick Sowell, Lawrenceville
Dr. Martin Lawrence Stoker, Arlington
Dr. Henry John Strenge, Roanoke
Dr. James Michael Stucki, Arlington
Dr. Timothy James Tehan, Bethesda, Md.
Dr. James Clyde Vanneter, West Palm Beach, Fla.
Dr. Willard Beecher Walters, Washington, D. C.
Dr. Albert David Warshauer, Louisville, Ky.
Dr. James Elijah Wheless, Roanoke
Dr. Francis Edward Winslow, Virginia Beach
Dr. Nina Bencich Woodside, Fairfax
Dr. Charles Adam Zeller, Marion

Dr. William H. Muller,

Chairman of the department of surgery at the University of Virginia, was a member of the panel on cardiovascular surgery at the sectional meeting of the American College of Surgeons in Montreal, Canada, April 6-9.

Harvest Festival in Roanoke.

The Harvest Festival will be held in Roanoke on October 3rd, which is the day before the opening of the annual meeting of The Medical Society of Virginia. The Harvest Bowl football game will be played between VPI and William and Mary. The Roanoke Council of Garden Clubs will again present their show "Color and Fashion for Living", a million-dollar display of fashions, furnishings and educational exhibits. An industrial exhibt "Index" will also be held at this time.

The Harvest Festival is sponsored by the Junior League of Roanoke, the proceeds of which are used for their community projects. Anyone desiring tickets for the football game may contact Mrs. Harry C. Johnson, Jr., 2122 Rosalind Avenue, Roanoke, Virginia.

"Heart Day" Symposium.

The second annual all-day cardiac symposium to be sponsored by the Heart Association of Northern Virginia will be held on June 3rd at the Marriott's Motor Hotel on Route 1 near Washington, D. C. Dr. Raymond Schwartz, chairman, has announced that the meeting will cover two major topics of interest to every physician with cardiac patients: 1. Surgically Reversible Heart Disease—Its Diagnosis and Treatment; and 2. Cardiac Resuscitation. The following speakers will be presented: Drs. Helen Taussig and Henry Bahnson, Baltimore; Drs. Alexander Nadas and Paul Zoll, Boston; and Drs. Charles A. Hufnagel and W. Proctor Harvey, Washington, D. C.

Members of The Medical Society of Virginia are invited to attend this symposium and further information may be obtained from the Heart Association of Northern Virginia, 609 North Edgewood Street, Arlington, Virginia.

Dr. George Margolis

Will join the faculty of the Medical College of Virginia as professor and chairman of the department of pathology on July 1st. He is now professor of pathology at Duke University and is a former chief consultant in that field to the Veterans Administration. He succeeeds Dr. Frank L. Apperly who retired last July.

Dr. C. Whitney Caulkins, Jr.,

Will direct the Waynesboro and East Augusta County's United Community Fund appeal this year.

Dr. Harold I. Nemuth

Has been named temporary chairman of the Department of Community Medicine at the Medical College of Virginia. He is replacing Dr. E. M. Holmes, Jr., until a permanent chairman is selected.

Dr. George S. Grier, III,

Has been elected president of the Newport News Rotary Club.

Virginia Association of Medical Assistants.

The third annual convention of this Association was held in Charlottesville, March 13-15. Members attended from Lynchburg, Petersburg, Falls Church, Loudoun County, Danville, and Richmond.

The Saturday session was presided over by the president, Mrs. Elva Spain of Petersburg. This was a business session with various committee reports, etc. An official pin, designed by Miss Sally Miller, Richmond, was adopted. A program of "Automobile Safety" was presented by Dr. Fletcher Woodward, Charlottesville. At the luncheon, the members were entertained by "Ber-Kee", the magician, from the Doho Chemical Company.

The following officers were elected at the afternoon session: President, Mrs. Mildred M. Phippen, Richmond; president-elect, Mrs. Lucy K. Carwile, Lynchburg; secretary, Miss Sally Miller, Richmond; and treasurer, Mrs. Shirley Tuck, Lynchburg. Mrs. Lillie Rogers, Richmond, installed the officers.

Following the banquet, Mr. Robert I. Howard, Executive Secretary of The Medical Society of Virginia, introduced the speaker, Miss Carol Towner, Special Services Representative of the Communications Division of the American Medical Association. Her topic was "Girl with a Life Preserver". Films of the American Association of Medical Assistants Convention taken by Mrs. Frances Mercer, Petersburg, were shown. A hospitality surprise party was given by the Richmond Club for the incoming president.

Dr. Abner Robertson, Richmond, and Dr. John Wyatt Davis, two of the Medical Advisors to the Association, also attended the convention.

Postgraduate Refresher Course in Honolulu.

The University of Southern California School of Medicine is again sponsoring a postgraduate refresher course in Honolulu. The group will depart from Los Angeles, via United Air Lines, July 29th and return on the S. S. Lurline on August 15th. The course is set up so that physicians may elect to attend one of several programs. In addition to lectures, there will be workshops in ECG and x-ray diagnosis as well as water and electrolyte balance and the diagnosis of jaundice. Emphasis is placed on practical diagnosis and therapy.

Afternoons, evenings and weekends are free so that the participating physicians and their families may enjoy the recreational facilities of the Island.

Further information may be obtained from Dr. Phil R. Manning, Associate Dean and Director of Postgraduate Division, School of Medicine, University of Southern California, 2025 Zonal Avenue, Los Angeles 33.

Wanted.

1. Male Psychiatrist, under 50 years, Diplomate or Board eligible, to direct privately operated outpatient clinic in city of 75,000. Salary—$16,200-$18,000 per annum and commission factor up to $7000.

2. Same prerequisites in location smaller area; guaranteed salary—$22,500-$25,000.

Write Box 625, care the Virginia Medical Monthly, 4205 Dover Road, Richmond 20, Virginia. (*Adv.*)

General Surgeon,

Thirty-five years of age, family, Diplomate American Board of Surgery, general and gynecologic surgery, additional two years training extensive work in hand and maxillofacial surgery. Seeks association with a group or individual in greater Washington, Arlington or Alexandria. Other suitable Northern Virginia towns considered. Write Box 650, care the Monthly, 4205 Dover Road, Richmond 20, Virginia. (*Adv.*)

Obituaries . . . .

Dr. Waller Curtis Akers,

Prominent physician of Stuart, died February 27th of a heart attack. Though he had been in ill health for some time, he continued his practice and had been at the office during the morning prior to his death. Dr. Akers was seventy-five years of age and graduated from the former University College of Medicine, Richmond, in 1912. Following his graduation, he located for practice in Stuart. Dr. Akers owned and operated the Stuart Hospital and had served for the past thirty-four years as head physician and surgeon. He was regarded as one of Patrick County's outstanding civic leaders and was active in church, civic, medical, fraternal and banking circles. He was a former Mayor and members of the Stuart Town Council and a charter member and past president of the Rotary Club. Dr. Akers was a past president of the Patrick-Henry Medical Society. He had been a member of The Medical Society of Virginia since 1912 and had served for many years as a member of the Council.

Dr. Akers is survived by his wife, two sons and a daughter.

Dr. William Ribble Pretlow,

Well-known physician of Warrenton, died March 28th. He was forty-nine years of age and a graduate of the Medical College of Virginia in 1934. Dr. Pretlow began his practice at The Plains but moved to Warrenton in 1936. He was a member of the Staff of the Fauquier Hospital. Dr. Pretlow had been an active member of The Medical Society of Virginia since 1936 and had served on several committees.

He is survived by his wife, a daughter, and four sons.

Dr. George Edward Barksdale,

Richmond, died March 6th at the home of his daughter near Fletcher, North Carolina. He was eighty-nine years of age and a graduate of the former University College of Medicine, Richmond, in 1899. Dr. Barksdale served as physician at Oteen Hospital, Asheville, N. C., for some years, and retired to Richmond in 1936 where he turned seriously to art, studying at and later becoming a fellow of the Pennsylvania Academy of Fine Arts. He was a painter of religious and historical subjects and his murals are in a number of churches in Virginia. He recently presented to the State of Virginia a life-size bronze of Edgar Allan Poe and this was dedicated in Richmond in April.

He was a Life Member of The Medical Society of Virginia, having joined in 1899.

His wife and two daughters survive him.

Dr. John Williams Hooker,

Chief Pathologist at Memorial Hospital, Danville, died April 2nd in Winston-Salem, where he had gone to deliver a lecture at the Bowman Gray School of Medicine. He was forty-four years of age and a graduate of Northwestern University Medical School, Chicago. Dr. Hooker came to Danville from Wisconsin in 1950 and had been very active in civic

and medical affairs. He had been a member of The Medical Society of Virginia since 1951. His wife and two sons survive him.

Dr. Whitmore.

Dr. William H. Whitmore died of coronary heart disease on January 30, 1959. He had been in failing health for some months and had been retired since August 31, 1958.

Dr. Whitmore was born and spent his early life in Lynchburg. He was educated in the public schools of that city and at the University of Virginia. He received his M.D. degree in 1916 from the University of Virginia.

He served first in the Army for approximately six months as a first lieutenant. He transferred to the Navy in January of 1917, in which organization he served during World War I. He was injured in action in 1918 and received the Purple Heart. He rose to the rank of Captain, and for some years, including those of World War II he served as the Roentgenologist at U.S. Naval Hospital, Portsmouth. He held many assignments from the Navy during his career. In 1938 he retired from the Navy and entered practice with Dr. C. W. Eley of Norfolk.

He was recalled to active duty November, 1940. After war duty in The Portsmouth Naval Hospital, he again was placed on inactive duty. He was appointed Radiologist at DePaul Hospital where he served until 1951. From then until his death he was in private practice. From 1955 to 1958 he was associated with Dr. P. B. Parsons of Norfolk.

Dr. Whitmore was a member of the Norfolk County Medical Society, The Medical Society of Virginia, the American Medical Association, the Radiological Society of North America, American Roentgen Ray Society, the Virginia Radiological Society, of which he was a past-president, and a Fellow of the American College of Radiology. Ht was a member of The Marshall Lodge #39, Lynchburg, A.M.W. Grand Lodge, Ancient Free Accepted Masons of Virginia, American Legion, Junius F. Lynch Post #35, Norfolk, and the American Camellia Society.

He made numerous contributions to the medical literature.

Dr. Whitmore is survived by his wife, two daughters, one son, William H. Whitmore, Jr., M.D., who is in the practice of medicine in Norfolk, and seven grandchildren.

WHEREAS, the Norfolk County Medical Society has lost a beloved member, whose ability and integrity were recognized by his associates in Radiology as well as his medical colleagues,

WHEREAS, the high degree of excellence which he exacted from his associates was none the less imposed upon himself,

WHEREAS, his quickness to champion a cause in which he believed, even if unpopular, and his readiness to accept defeat graciously were qualities which endeared him to his colleagues,

WHEREAS, the above facts are in brief, a summary of that member's life,

THEREFORE, be it resolved that these words become a part of the record of The Norfolk County Medical Society, and further, that copies of this resolution be sent to Mrs. Whitmore, the editor of the Journal of the American Medical Association, the editor of the American Journal of Radiology, Radium Therapy and Nuclear Medicine, and the editor of Radiology.

J. D. LEA, M.D.
J. W. OAST, M.D.
P. B. PARSON, M.D., *Chairman*

Dr. Natt.

Dr. Jerome Natt, well known doctor of general practice and member of this Society, died suddenly on February 22nd.

Dr. Natt was born March 19, 1907, in Brooklyn, N. Y. He received his undergraduate degree at Johns Hopkins University in 1928, and was graduated from the Long Island College of Medicine in 1933. He interned for two years at the Greenpoint Hospital in Brooklyn.

He began the general practice of medicine in Roanoke in 1935. He was a member of the staffs of the Lewis-Gale and the Roanoke Memorial Hospitals, and was also a member of the following medical societies: American Academy of General Practice, Virginia Academy of General Practice, The Medical Society of Virginia, Southwest Virginia Medical Society, Blue Ridge Chapter of the Virginia Academy of General Practice, and the Roanoke Academy of Medicine. He was a past member of the American Academy of Allergy.

Dr. Natt was very active in a number of civic and community projects. Among these were: The Optimist Club, where he was Track Physician for the Soap Box Derby sponsored by this Club; former President of the Roanoke Council for Retarded Children; member of the Board of the Family Service Association; Commission Doctor for the State of Virginia Lunacy Commission for Roanoke; member of the Board of Directors of Temple Emanuel; Vice President of the Greenhill Country Club.

Dr. Natt was devoted to his family, and beloved by his many friends. He will be remembered as a man dedicated to his profession, and a humanitarian, especially in the field of retarded children.

THEREFORE BE IT RESOLVED, that the members of the Roanoke Academy of Medicine, extend their deepest and most sincere sympathy to the family of our departed colleague.

BE IT FURTHER RESOLVED, that this resolution be recorded in the minutes of the Roanoke Academy of Medicine, and copies sent to the family, and to the Virginia Medical Monthly.

ANDREW D. SHAPIRO
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In this study, the weight gained was not lost after discontinuance of Nilevar therapy although many patients did not continue the sharp gains effected by the drug.

The authors are of the opinion that Nilevar is a highly useful anabolic agent for influencing weight gain in underweight children.

When Nilevar is administered to children a dose of 0.25 mg. per pound of body weight is recommended and continuous dosage for more than three months is not recommended.

Nilevar is supplied as tablets of 10 mg., drops of 0.25 mg. per drop and ampuls of 25 mg. in 1 cc. of sesame oil. Further dosage information in Searle Reference Manual No. 4.

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*Brown, S. S.; Libo, H. W., and Nussbaum, A. H.: Norethandrolone in the Successful Management of Anorexia and "Weight Lag" in Children, Scientific Exhibit presented at the Annual Meeting of the American Academy of Pediatrics, Chicago, Oct. 20-23, 1958.

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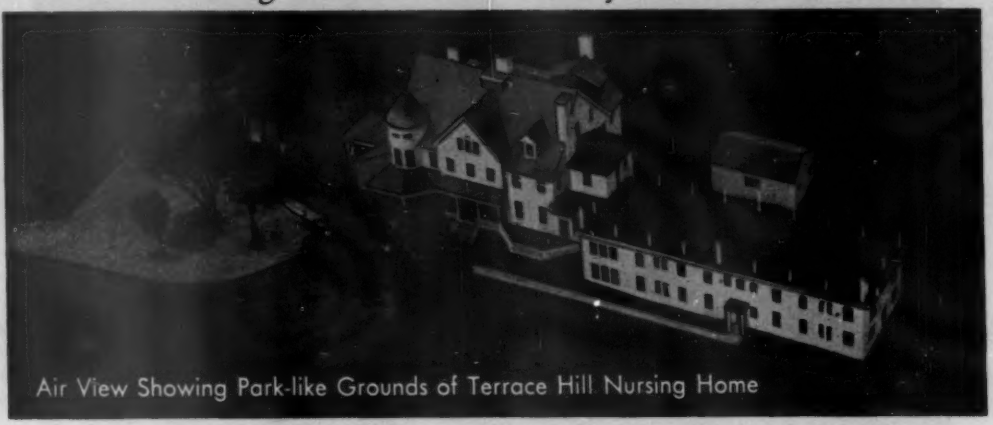

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Spotswood Robins, M.D.
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James B. Dalton, Jr., M.D.

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Edward G. Davis, Jr., M.D.

Ophthalmology, Otolaryngology:
W. L. Mason, M.D.

Anesthesiology:
William B. Moncure, M.D.
Heth Owen, Jr., M.D.

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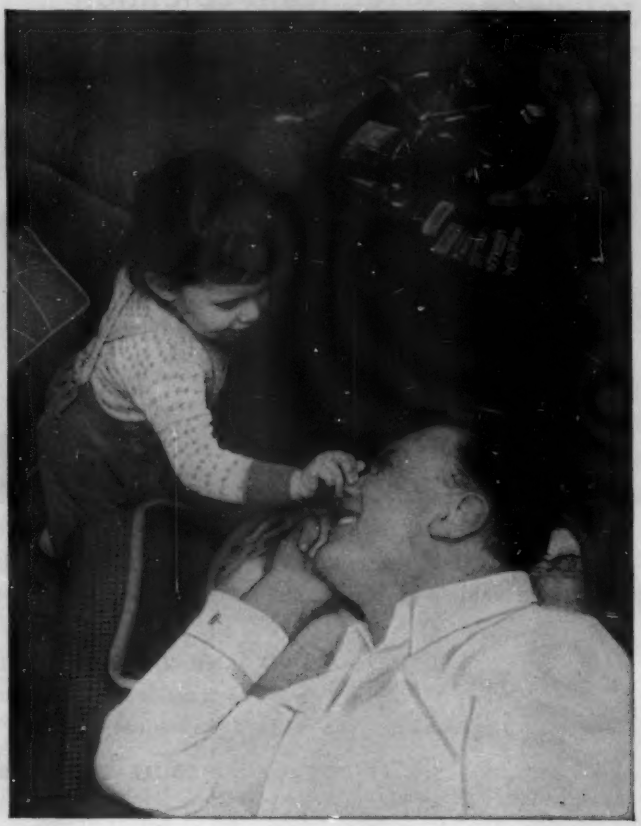

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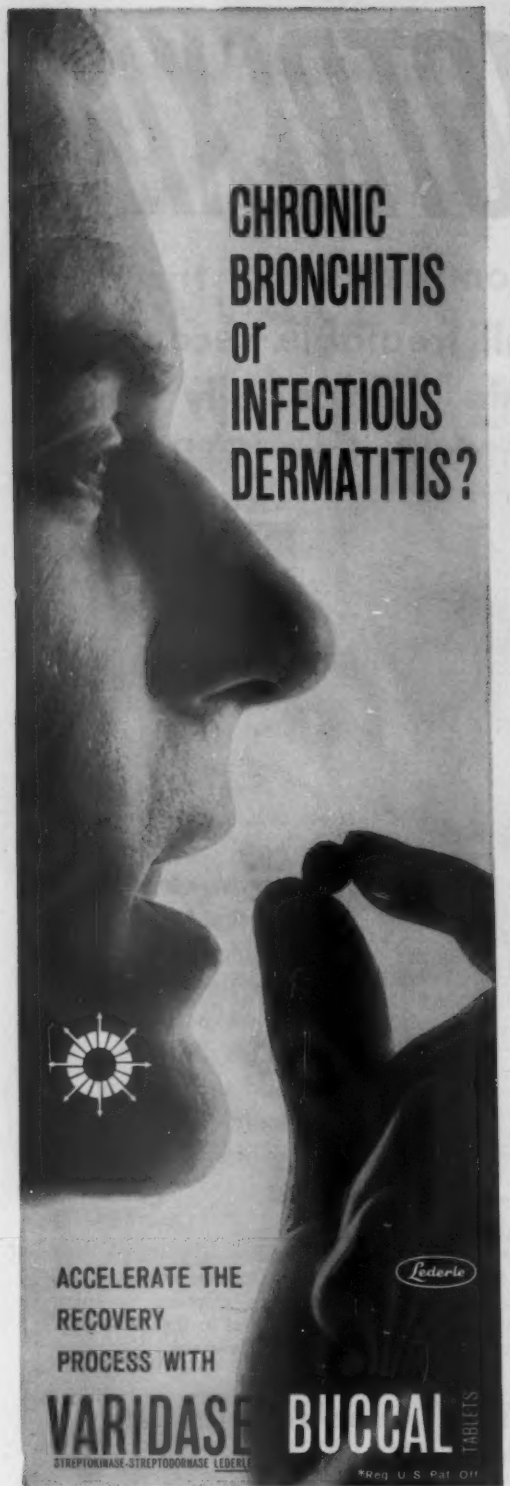

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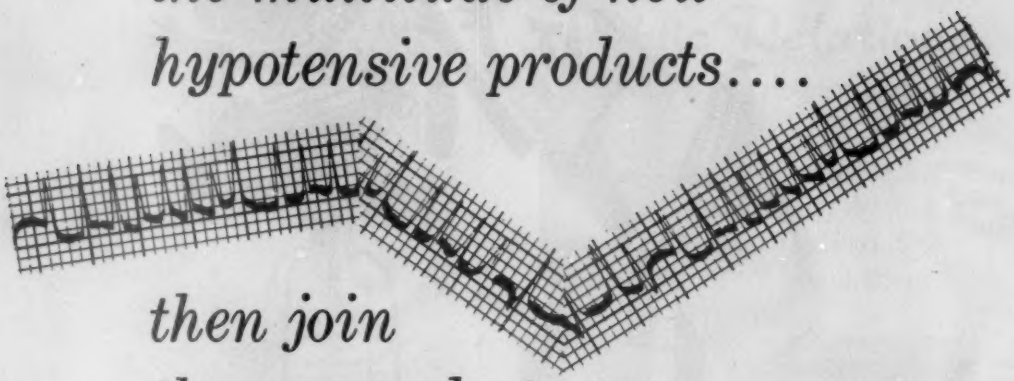

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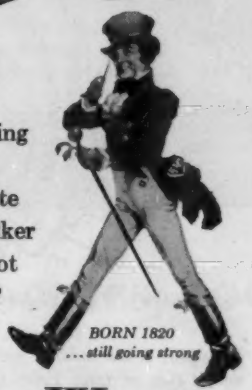

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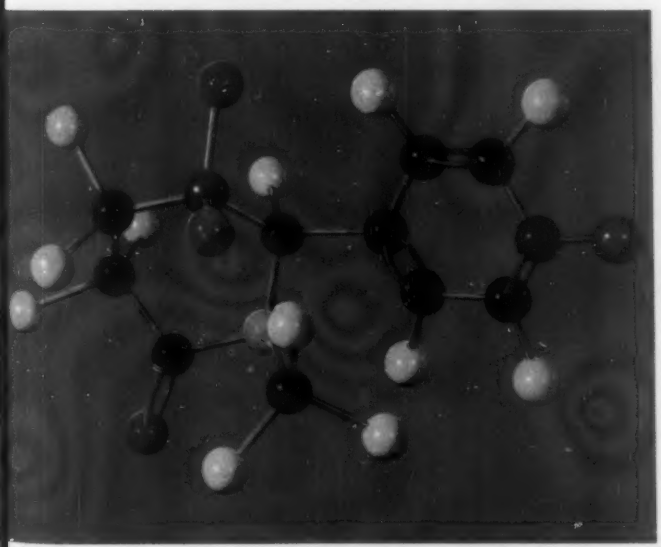

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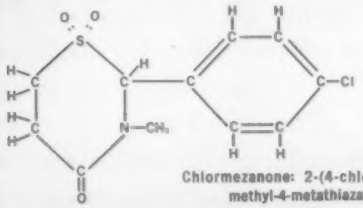

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effective in 91% of patients

INDICATIONS

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Osteoarthritis
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Disk syndrome
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effective in 88% of patients

INDICATIONS

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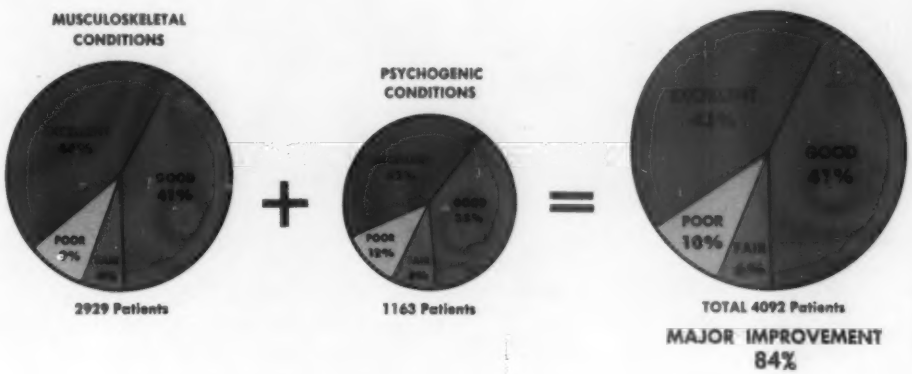

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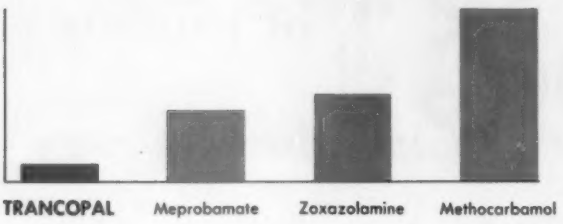
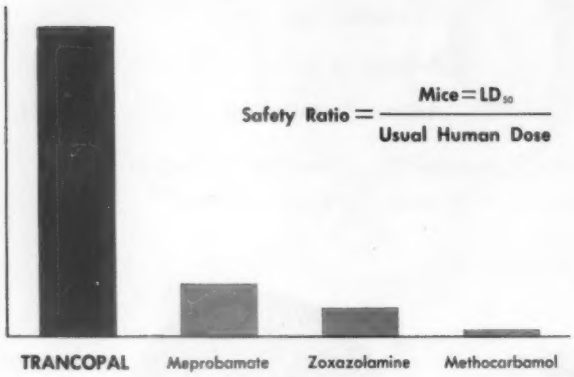
Comparison with 3 widely used central relaxants

When compared with three widely used central relaxants for activity, safety and clinical effectiveness, Trancopal offers definite desirable advantages.



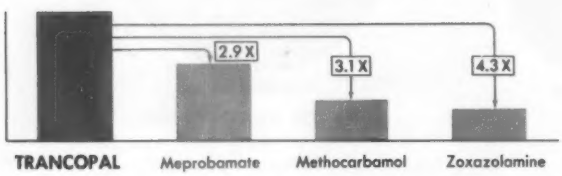
for activity

In the usual human dose, Trancopal is four to ten times as potent per milligram.



for safety

Comparative pharmacologic tests showed that Trancopal is up to thirteen times as safe or up to thirteen times less toxic. The measure of safety was the LD_{50} in mice/usual human dose.



for clinical effectiveness

A clinical comparison in low back pain, torticollis, bursitis and anxiety states showed that Trancopal is up to four times as effective. Each of the 40 patients received all four drugs in random rotation for several days. Although each of the four gave some relief, only the one providing the most effective relief was recorded.

Supplied: Trancopal Caplets® (scored) 100 mg., bottles of 100.

References: 1. Cooperative Study, Department of Medical Research, Winthrop Laboratories. • 2. Gans, S.E.: To be published. • 3. Lichtman, A.L.: Kentucky Acad. Gen. Pract. J. 4:28, Oct., 1958.

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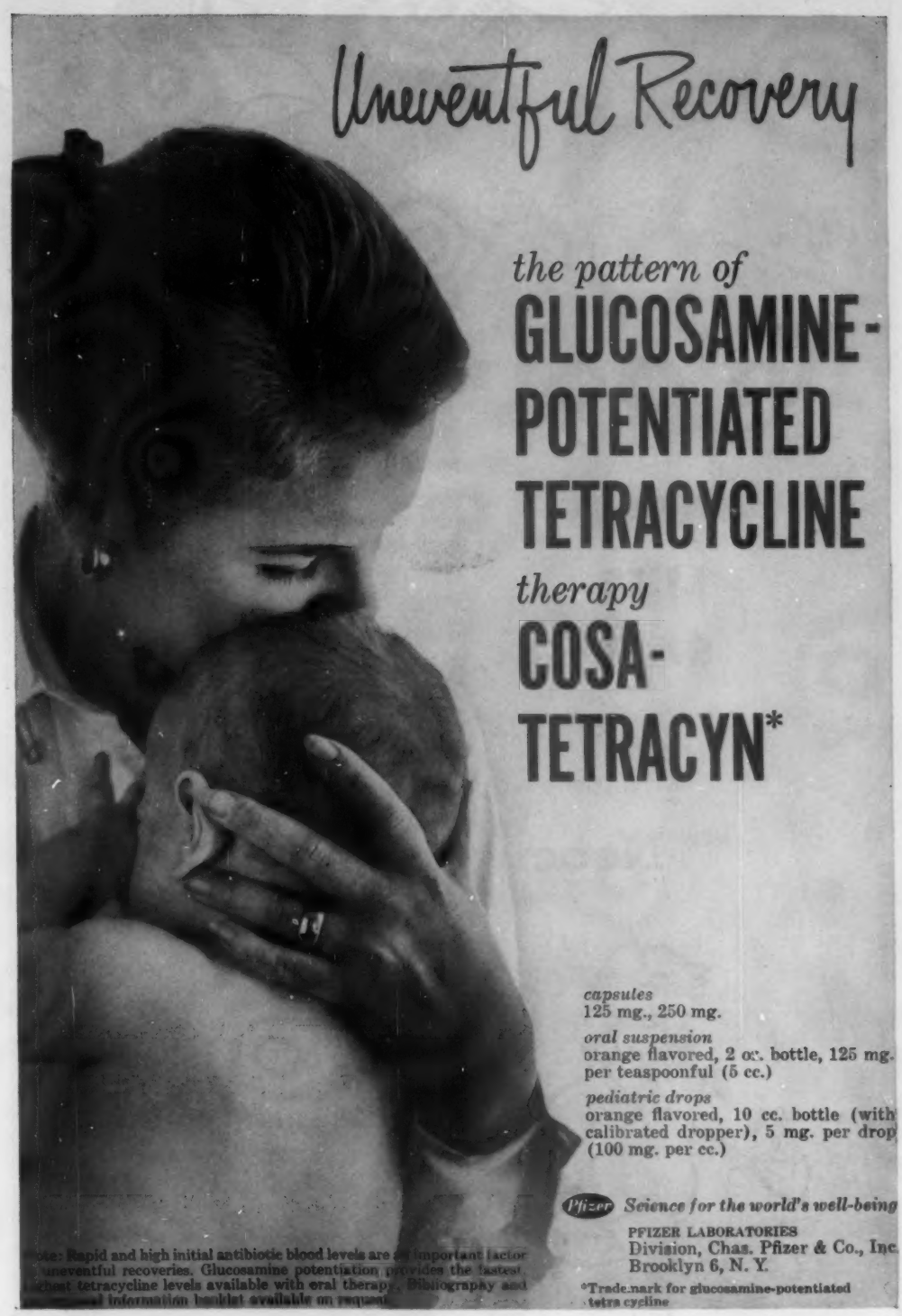
Printed in U. S. A. 3-59 (4027)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These antihistamines block the effect of histamine on the nasal and paranasal capillaries, preventing dilation and exudation.[3] *This is not enough;* by the time the physician is called on to provide relief, histamine damage is usually present and should be counteracted.

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TRIAMINIC is orally administered, systemically distributed and reaches *all* respiratory membranes, avoiding nose drop addiction and rebound congestion.[6, 7] TRIAMINIC can be prescribed for prompt relief in summer allergies, including hay fever.

References: 1. Sheldon, J. M.: Postgrad. Med. 14:465 (Dec.) 1953. 2. Hubbard, T. F. and Berger, A. J.: Annals Allergy p. 350 (May-June) 1950. 3. Kline, B. S.: J. Allergy 19:19 (Jan.) 1948. 4. Goodman, L. S. and Gilman, A.: Pharmacol. Basis Ther., Macmillan, New York, 1956, p. 532. 5. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 6. Lhotka, F. M.: Illinois M.J. 112:259 (Dec.) 1957. 7. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

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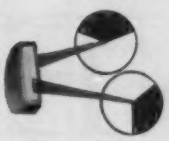

Each TRIAMINIC timed-release tablet provides:

Phenylpropanolamine HCl	50 mg.
Pheniramine maleate	25 mg.
Pyrilamine maleate	25 mg.

Also available: TRIAMINIC SYRUP for those patients of all ages who prefer a liquid medication. Each 5 ml. teaspoonful is equivalent to ¼ Triaminic Tablet or ½ Triaminic Juvelet. TRIAMINIC JUVELETS provide half the dosage of the Triaminic Tablet with the same timed-release action for prompt and prolonged relief.

STOP *running noses* *and open stuffed noses orally*

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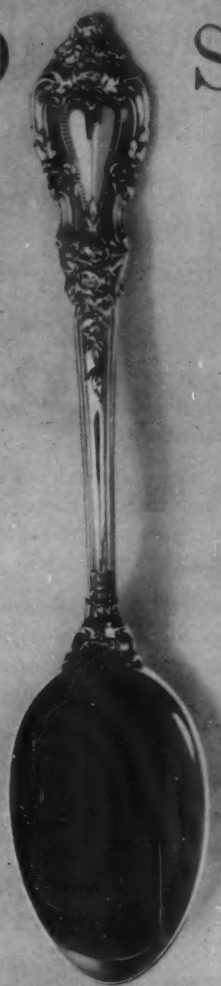

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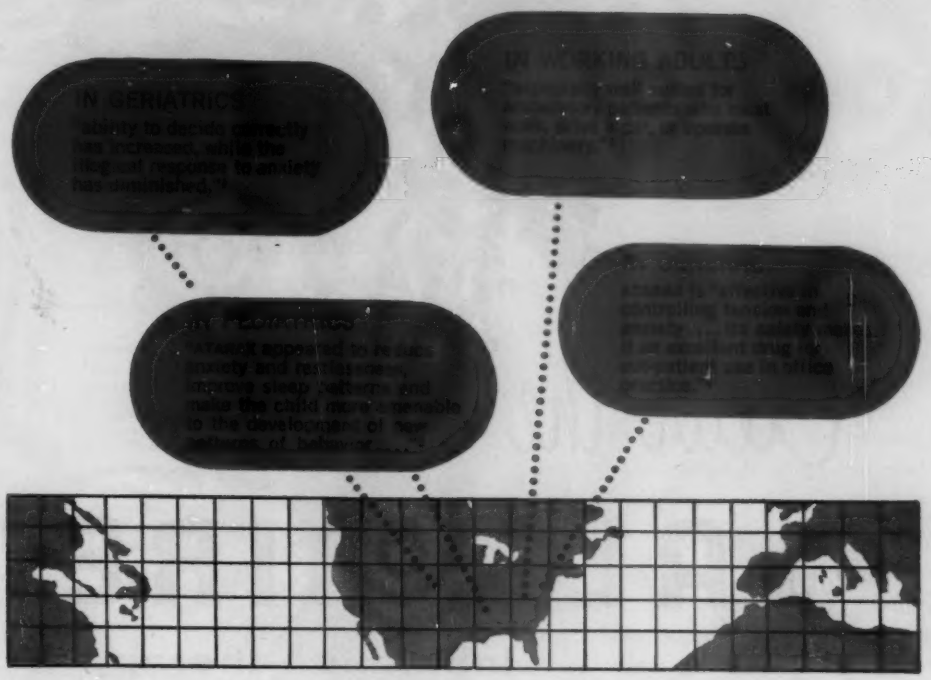

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References: 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediat. Clin. North America 5:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. 57:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. 58:1684 (May 15) 1958. 5. Coirault, M., et al.: Presse méd. 64:2239 (Dec. 26) 1956. 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.

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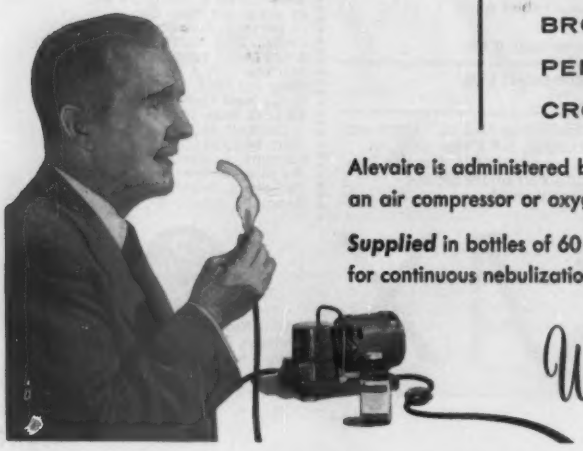

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HIGHLIGHTS FROM THE A.M.A. COUNCIL ON DRUGS

REPORT ON TRIAMCINOLONE

J.A.M.A. 169:257 (January 17) 1959.

"It [triamcinolone] has an anti-inflammatory potency greater than an equal amount of prednisolone; i.e., comparable suppressive effects may usually be achieved with lower doses of triamcinolone than with prednisolone."

"Triamcinolone lacks the sodium-retaining and edema-producing effects of most other glucocorticoids. During the first several days of administration, it may cause a loss of sodium from the body; an initial mild diuretic action is frequently observed, whether the patient is frankly edematous or not. This is in contrast to the definite sodium-retaining and fluid-retaining properties of cortisone and hydrocortisone and to a much lesser extent with prednisone and prednisolone."

"Except in exceedingly large doses, triamcinolone apparently has no consistent effect on potassium excretion. Hence, neither sodium restriction nor potassium supplementation is ordinarily required during therapy with this agent."

"As with other glucocorticoids, the long-term administration of triamcinolone results in definite catabolic effects, as indicated by impairment of carbohydrate utilization and negative protein and calcium balance. This catabolic effect, coupled with a lack of appetite stimulation which is apparently peculiar to triamcinolone, may produce weight loss that might be undesirable in some patients treated for long periods of time."

"...the voracious appetite, with weight gain and euphoria, characteristic of other steroids, is not seen with administration of triamcinolone."

"Triamcinolone has been used for the management of a wide variety of clinical conditions usually considered amenable to systemic steroid therapy. These have included rheumatoid arthritis and other collagen diseases, allergic and dermatological disorders, certain leukemias and malignant lymphomas, the nephrotic syndrome, pulmonary emphysema and fibrosis, acute bursitis, rheumatic fever, and certain blood dyscrasias. Although clinical experience with the drug in some of the foregoing conditions is not extensive, the many similarities in action between triamcinolone and other potent glucocorticoids would indicate a usefulness for triamcinolone akin to that of other agents of this class."

"There is some evidence that triamcinolone is more effective at a smaller dosage than are other steroids in controlling both the skin and joint lesions in psoriasis, whether or not complicated by arthropathy."

"Triamcinolone appears to compare favorably with other steroids for use in those situations in which edema and sodium retention have been complicating problems."

"It [triamcinolone] may also be the steroid of choice for patients in whom psychic stimulation, euphoria, voracious appetite, and weight gain should be avoided."

"...the drug [triamcinolone] does produce the other side effects and untoward reactions common to the glucocorticoids. At therapeutically equivalent doses, the frequency and severity of clinical manifestations of hyperadrenalism — rounding of the face, fat deposition, and hirsutism — are essentially the same. Likewise, there is little indication that the relative incidence of osteoporosis is materially decreased after the long-term use of the drug."

"Triamcinolone apparently does not cause the euphoria sometimes seen with other steroids, and the occurrence of mental depressions is uncommon."

"Current evidence suggests that the drug [triamcinolone] may not produce as high an incidence of peptic ulcer as do other steroids."

"Cutaneous erythema seems to be a side effect peculiar to triamcinolone."

"The usual contraindications and precautions of glucocorticoid therapy should be followed in the use of triamcinolone, keeping in mind that prolonged therapy with this drug will suppress the function of the patient's own adrenals by interfering with the pituitary-adrenal axis."

Aristocort®

Triamcinolone LEDERLE

Supplied: 1 mg. scored tablets (yellow)
2 mg. scored tablets (pink)
4 mg. scored tablets (white)

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

new for total management of itching,[1,2] inflamed,[3,4] infected[5,6] skin lesions

Dermatitis repens with staph and monilia 7 weeks duration

Cleared in 5 days

Mycolog ointment

Kenalog, Spectrocin and Mycostatin in Plastibase

antipruritic/anti-inflammatory/antibacterial/antifungal

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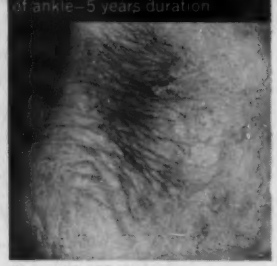

Cleared in 20 days

Mycolog Ointment – containing the new superior topical corticoid Kenalog – reduces inflammation,[3,4] relieves itching,[1,2] and combats or prevents bacterial, monilial and mixed infections.[5-7] It is extremely well tolerated, and assures a rapid, decisive clinical response for most infected dermatoses.

> "Thirty-one of 38 patients . . . obtained excellent or good control of dermatological lesions . . . [Mycolog] was highly effective, particularly in the management of mixed infections. Several recalcitrant eruptions which had not responded to previous therapy were remarkably responsive to the daily application of this preparation over periods of 2 to 3 weeks."[5]

For total management of itching, inflamed, infected skin lesions, Mycolog contains triamcinolone acetonide, an outstanding new topical corticoid for prompt, effective relief of itching, burning and inflammation[1-4] – neomycin and gramicidin for powerful antibacterial action[7] – and nystatin for treating or preventing Candida (Monilia) albicans infections.[8,9]

Application: Apply 2 to 3 times daily. Supply: 5 Gm. and 15 Gm. tubes. Each gram supplies 1.0 mg. (0.1%) triamcinolone acetonide, 2.5 mg. neomycin base, 0.25 mg. gramicidin, and 100,000 units nystatin in PLASTIBASE.

References: 1. Shelmire, J.B., Jr.: Monographs on Therapy 3:164 (Nov.) 1958. • 2. Nix, T.E., Jr., and Derbes, V.J.: Monographs on Therapy 3:123 (Nov.) 1958. • 3. Robinson, R.C.V.: Bull. School of Med., U. Maryland 43:54 (July) 1958. • 4. Sternberg, T.H.; Newcomer, V.D., and Reisner, R.M.: Monographs on Therapy 3:115 (Nov.) 1958. • 5. Clark, R.F., and Hallett, J.J.: Monographs on Therapy, 3:153 (Nov.) 1958. • 6. Smith J.G., Jr.; Zawisza, R.J., and Blank, H.: Monographs on Therapy, 3:111 (Nov.) 1958. • 7. Monographs on Therapy, 3:137 (Nov.) 1958. • 8. Howell, C.M., Jr.: North Carolina M.J. 19:449 (Oct.) 1958. • 9. Bereston, E.S.: South. M.J. 50:547 (April) 1957.

And whatever the topical corticoid need, a suitable Squibb formulation is available—Kenalog-S Lotion—7½ cc. plastic squeeze bottles. Each cc. supplies 1.0 mg. (0.1%) triamcinolone acetonide, 2.5 mg. neomycin base and 0.25 mg. gramicidin. Kenalog Cream, 0.1%—5 Gm. and 15 Gm. tubes. Kenalog Lotion, 0.1%—15 cc. plastic squeeze bottles. Kenalog Ointment, 0.1%—5 Gm. and 15 Gm. tubes.

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[1]Sadove, Max S. and Schwartz, Lester: An Evaluation of Buffered Versus Nonbuffered Acetylsalicylic Acid, Postgraduate Medicine; 24:183, August, 1958.
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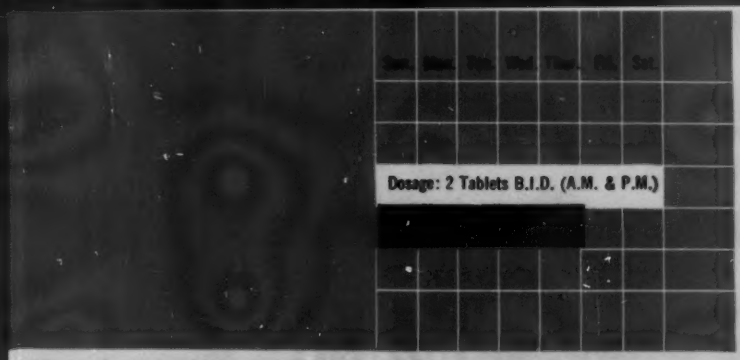
INDEX TO ADVERTISERS

Abbott 24-25
American Health Insurance Corp. 68
Ames Company, Inc. ..... Inside Back Cover
Appalachian Hall 53
Astra Pharmaceutical Company 6, 61
Ayerst Laboratories 65
Bradlee Medical Bldg. 54
Brayten Pharmaceutical Company 87
Burroughs Wellcome & Co. 84
Canada Dry 63
Catastrophic Hosp. & Nurse Expense 42
Davies, Rose & Company, Limited 41
Desert Air Lamp 67
Drug Specialties 66
Endo 39
Eli Lilly and Company 44
First & Merchants 56
Gill Memorial Eye, Ear and Throat Hospital, Inc. 48
Glenbrook 83
Jefferson, A. G. 56
Johnston-Willis Hospital 54
Jones and Vaughan 7
Lederle 11-13, 21, 32-33, 56, 60, 63, 76, 80-81
Lorillard 8
Medicine in Virginia 86
Merck Sharp & Dohme 5, 30-31, 79
Parke, Davis & Company ..... Second Cover-3
People's Service Drug Stores 36
Pfizer Laboratories 9, 26, 72
Physicians Products Co. 59
Plyler's Nursing Home, Mrs. 54
Richmond Eye Hospital—Richmond Ear, Nose and Throat Hospital 48
Richmond Hotels Incorporated 86
Riverside Convalescent Home 46
Robins, A. H. 29
Roerig 17, 28, 77
Rucker, Marvin Pierce 60
Saint Albans 49
Schering 15, 43
Searle 45
Smith-Dorsey 75
Smith Kline & French Laboratories ..... Back Cover
Squibb 22-23, 27, 82
St. Elizabeth's Hospital 50
St. Luke's Hospital 53
St. Paul-Western Insurance Companies 55
State Board of Medical Examiners, The 54
Stuart Circle Hospital 49
Terrace Hill Nursing Home 46
Tilden Company, The 10, 62
Today's Health 60
Tucker Hospital, Inc. 50
United States Brewers Foundation 40
Upjohn Company, The 88
U. S. Treasury 58
U. S. Vitamins 37-38
Vale Chemical Company, Inc., The 85
Valentine Company, Inc. 64
Vent-Air 16
Wallace Laboratories 34-35, 51-52
White Cross Hospital 47
Williams Printing Co. 55
Winthrop Laboratories 14, 18, 19-20, 57, 64, 69-72, 74, 78



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treats the whole syndrome

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Each 80 mg. tablet contains 50 mg. Pamabrom, and 30 mg. pyrilamine maleate. Dosage is 2 tablets twice daily (morning and night) beginning 5 to 7 days before menstruation. Discontinue when the flow starts.

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Medaprin, Upjohn's new analgesic-steroid combination, contains aspirin plus Medrol,** the corticosteroid with *the best therapeutic ratio in the steroid field.*† Instead of suffering recurrent discomfort because of the "wearing off" of analgesics, the patient on Medaprin experiences a smooth, *extended* relief and more normal mobility.

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Dosage: The recommended dosage is 1 tablet q.i.d. The usual cautions and contraindications of corticotherapy should be observed.

Supplied: In bottles of 100 and 500.

Formula: Each Medaprin tablet contains

- 300 mg. acetylsalicylic acid, for prompt relief of pain
- 1 mg. Medrol, to suppress the causative inflammation
- 200 mg. calcium carbonate, as buffer

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What differentiates "renal diabetes" (renal glycosuria) from diabetes mellitus?

Blood sugar levels. In renal glycosuria they are normal; in untreated diabetes, fasting blood sugars are usually 130 mg.% or over and postprandial levels 170 mg.%, or more.

Source: Joslin, E. P.; Root, H. F.; White, P., and Marble, A.: The Treatment of Diabetes Mellitus, ed. 9, Philadelphia, Lea & Febiger, 1952, pp. 701-702.

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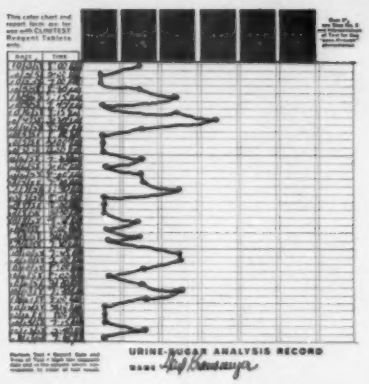

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*GP *16*:121 (August) 1957.

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